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(54) Title: STRESS-REGULATED GENES OF PLANTS, TRANSGENIC PLANTS CONTAINING SAME, AND METHODS OF USE

(57) Abstract: The present invention relates to clusters of plant genes that are regulated in response to one or more stress conditions. The present invention also relates to isolated plant stress-regulated genes, including portions thereof comprising a coding sequence or a regulatory element, and to consensus sequences comprising a plant stress-regulated regulatory element. In addition, the invention relates to a recombinant polynucleotide, which includes a plant stress-regulated gene, or functional portion thereof, operatively linked to a heterologous nucleotide sequence. The invention further relates to a transgenic plant, which contains a plant stress-regulated gene or functional portion thereof that was introduced into a progenitor cell of the plant. In addition, the invention relates to methods of using a plant stress-regulated gene to confer upon a plant a selective advantage to a stress condition. The invention also relates to a method of identifying an agent that modulates the activity of a plant stress regulated regulatory element.

## STRESS-REGULATED GENES OF PLANTS, TRANSGENIC PLANTS CONTAINING SAME, AND METHODS OF USE

### BACKGROUND OF THE INVENTION

#### FIELD OF THE INVENTION

The present invention relates generally to plant genes, the expression of which are regulated in response to stress, and more specifically to the gene regulatory elements involved in a stress-induced response in plants, to uses of the coding sequences and regulatory elements of such plant stress-regulated genes, and to transgenic plants genetically modified to express such a coding sequence or to express a heterologous polynucleotide from such a regulatory element.

#### BACKGROUND INFORMATION

Microarray technology is a powerful tool that can be used to identify the presence and level of expression of a large number of polynucleotides in a single assay. A microarray is formed by linking a large number of discrete polynucleotide sequences, for example, a population of polynucleotides representative of a genome of an organism, to a solid support such as a microchip, glass slide, or the like, in a defined pattern. By contacting the microarray with a nucleic acid sample obtained from a cell of interest, and detecting those polynucleotides expressed in the cell can hybridize specifically to complementary sequences on the chip, the pattern formed by the hybridizing polynucleotides allows the identification of clusters of genes that are expressed in the cell. Furthermore, where each polynucleotide linked to the solid support is known, the identity of the hybridizing sequences from the nucleic acid sample can be identified.

A strength of microarray technology is that it allows the identification of differential gene expression simply by comparing patterns of hybridization. For example, by comparing the hybridization pattern of nucleic acid molecules obtained from cells of an individual suffering from a disease with the nucleic acids obtained from the corresponding cells of a healthy individual, genes that are differentially expressed can be identified. The identification of such differentially expressed genes

provides a means to identify new genes, and can provide insight as to the etiology of a disease.

Microarray technology has been widely used to identify patterns of gene expression associated with particular stages of development or of disease conditions in animal model systems, and is being applied to the identification of specific patterns of gene expression in humans. The recent availability of information for the genomes of plants provides a means to adapt microarray technology to the study of plant gene expression.

Plants and plant products provide the primary sustenance, either directly or indirectly, for all animal life, including humans. For the majority of the world's human population and for many animals, plants and plant products provide the sole source of nutrition. As the world population increases, the best hope to prevent widespread famine is to increase the quantity and improve the quality of food crops, and to make the crops available to the regions of the world most in need of food.

Throughout history, a continual effort has been made to increase the yield and nutritious value of food crops. For centuries, plants having desirable characteristics such as greater resistance to drought conditions or increased size of fruit were crossbred and progeny plants exhibiting the desired characteristics were selected and used to produce seed or cuttings for propagation. Using such classical genetic methods, plants having, for example, greater disease resistance, increased yield, and better flavor have been obtained. The identification of plant genes involved in conferring a selective advantage on the plant to an environmental challenge would facilitate the generation and yield of plants, thereby increasing the available food supply to an increasing world population. The involvement of these genes in a single organism to responses to multiple stress conditions, however, remains unknown. Thus, a need exists to identify plant genes and polynucleotides that are involved in modulating the response of a plant to changing environmental conditions. The present invention satisfies this need and provides additional advantages.

### 30 SUMMARY OF THE INVENTION

The present invention relates to clusters of genes that are regulated in response to a stress condition in plants. Such clusters include, for example, plant polynucleotides

whose expression is altered in response to two or more different stress conditions; and plant polynucleotides the expression of which are altered in response to one stress condition, but not to others. The identification of such clusters, using microarray technology, has allowed the identification of plant stress-regulated genes in

5 *Arabidopsis thaliana* (see Tables 1 and 2); and homologs and orthologs thereof in other plant species (see Table 32). Thus, the invention provides isolated polynucleotide portions of *Arabidopsis* plant stress-regulated genes, and homologs and orthologs thereof; variants of such sequences, and polynucleotides encoding substantially similar plant stress-regulated polypeptides expressed therefrom. Such sequences include, for

10 example, sequences encoding transcription factors; enzymes, including kinases; and structural proteins, including channel proteins (see Tables 29-31). Accordingly, the present invention also relates to an isolated polynucleotide comprising all or a portion of a plant stress-regulated gene, and to polynucleotide portions thereof, including a coding region (open reading frame), which encodes all or a portion of a stress-

15 regulated polypeptide, for example, as set forth in SEQ ID NOS:1-2703; and a regulatory element involved in regulating the response of the plant to a stress condition such exposure to an abnormal level of salt, osmotic pressure, temperature or any combination thereof, for example, as set forth in SEQ ID NOS:2704-5379.

The present invention also relates to a recombinant polynucleotide, which

20 contains a nucleotide sequence of a plant stress-regulated gene or functional portion thereof operatively linked to a heterologous nucleotide sequence. In one embodiment, the recombinant polynucleotide comprises a plant stress-regulated gene regulatory element operatively linked to a heterologous nucleotide sequence, which is not regulated by the regulatory element in a naturally occurring plant. The heterologous

25 nucleotide sequence, when expressed from the regulatory element, can confer a desirable phenotype to a plant cell containing the recombinant polynucleotide. In another embodiment, the recombinant polynucleotide comprises a coding region, or portion thereof, of a plant stress-regulated gene operatively linked to a heterologous promoter. The heterologous promoter provides a means to express an encoded stress-

30 regulated polypeptide constitutively, or in a tissue-specific or phase-specific manner.

Accordingly, in one aspect, the present invention provides an isolated polynucleotide comprising a nucleotide sequence of a plant gene that hybridizes under



- stringent conditions, preferably high stringency conditions, to any one of SEQ ID NOS:1-5379 (see Tables 1 and 2), including to a coding region (SEQ ID NOS:1-2703) or a regulatory region, which can alter transcription of an operatively linked nucleic acid sequence in response to an abiotic stress (SEQ ID
- 5 NOS:2704-5379; see Table 2), or to a complement thereof. Additional aspects provide sequences that hybridize under stringent conditions, preferably high stringency conditions, to the complements of SEQ ID NO 1-1261 (cold responsive genes; Tables 3-6), SEQ ID NOS:2227-2427 (saline responsive genes; Tables 7-10), SEQ ID NOS:2428-2585 (osmotic responsive genes; Tables 11-14), SEQ ID
- 10 NOS:1699-1969 (cold and osmotic responsive genes; Tables 15-17), SEQ ID NOS:1970-2226 (cold and saline responsive genes; Tables 18-20), SEQ ID NOS:2586-2703 (osmotic and saline responsive genes; Tables 21-23), and SEQ ID NOS:1262-1698(cold, osmotic and saline responsive genes; Tables 24-26), and which can comprise regulatory regions that can alter transcription in response to cold stress,
- 15 osmotic stress, saline stress, or combinations thereof (SEQ ID NOS:2704-5379; see Table 2). Also provided are nucleotide sequences complementary thereto, and expression cassettes, plants and seeds comprising any of the above isolated sequences.
- In another aspect, the present invention provides an isolated polynucleotide comprising a plant nucleotide sequence that hybridizes under stringent conditions,
- 20 preferably high stringency conditions, to the complement of any one of SEQ ID NOS:1-2703 (Table 1), including to a coding region thereof (SEQ ID NOS:2704-5379), wherein expression of said coding region is altered in response to an abiotic stress. Additional aspects provide sequences that hybridize under high stringency conditions to the complements of SEQ ID NO 1-1261 (cold responsive
- 25 genes; Tables 3-6), SEQ ID NOS:2227-2427 (saline responsive genes; Tables 7-10), SEQ ID NOS:2428-2585 (osmotic responsive genes; Tables 11-14), SEQ ID NOS:1699-1969 (cold and osmotic responsive genes; Tables 15-17), SEQ ID NOS:1970-2226 (cold and saline responsive genes; Tables 18-20), SEQ ID NOS:2586-2703 (osmotic and saline responsive genes; Tables 21-23), and SEQ ID
- 30 NOS:1262-1698(cold, osmotic and saline responsive genes; Tables 24-26), and which can comprise a coding region whose transcription is altered in response to cold stress, osmotic stress, saline stress, or a combination thereof. Also provided are nucleotide

sequences complementary thereto, and expression cassettes, plants and seeds comprising any of the above sequences.

The invention further relates to a method of producing a transgenic plant, which comprises at least one plant cell that exhibits altered responsiveness to a stress condition.

- 5 In one embodiment, the method can be performed by introducing a polynucleotide portion of plant stress-regulated gene into a plant cell genome, whereby the polynucleotide portion of the plant stress-regulated gene modulates a response of the plant cell to a stress condition.

- The polynucleotide portion of the plant stress-regulated gene can encode a stress-regulated polypeptide or functional peptide portion thereof (see SEQ ID NOS:1-2703), wherein expression of the stress-regulated polypeptide or functional peptide portion thereof either increases the stress tolerance of the transgenic plant, or decreases the stress tolerance of the transgenic plant. The polynucleotide portion of the plant stress-regulated gene encoding the stress-regulated polypeptide or functional peptide portion thereof can be operatively linked to a heterologous promoter. The polynucleotide portion of the plant stress-regulated gene also can comprise a stress-regulated gene regulatory element (see SEQ ID NOS:2704-5379). The stress-regulated gene regulatory element can integrate into the plant cell genome in a site-specific manner, whereupon it can be operatively linked to a heterologous nucleotide sequence, which can be expressed in response to a stress condition specific for the regulatory element; or can be a mutant regulatory element, which is not responsive to the stress condition, whereby upon integrating into the plant cell genome, the mutant regulatory element disrupts an endogenous stress-regulated regulatory element of a plant stress-regulated gene, thereby altering the responsiveness of the plant stress-regulated gene to the stress condition.

- In one aspect, the invention provides a method for producing a transgenic plant by introducing into at least one plant cell a recombinant nucleic acid construct comprising i) all or a portion of any one of SEQ ID NOS:1-5379; ii) a polynucleotide comprising a coding region that hybridizes under conditions of high stringency to all or a portion of the complement of any one of SEQ ID NOS:1-2703; iii) a polynucleotide comprising a sequence that alters transcription of an operatively linked coding region in response to abiotic stress, and that hybridizes under conditions of

- high stringency to the complement of any one of SEQ ID NOS:2704-5379; iv) a polynucleotide having at least 90% sequence identity with any one of SEQ ID NOS:1-5379; v) a fragment of any one of the sequences of iv), wherein the fragment comprises a coding region; or vi) a fragment of any one of the sequences of iv), wherein the fragment comprises a nucleotide sequence that alters transcription of an operatively linked coding region in response to abiotic stress; and regenerating a plant from the at least one plant cell.

- Another aspect provides a method for producing a transgenic plant comprising introducing into at least one plant cell a recombinant nucleic acid construct comprising i) any one of SEQ ID NOS:1-1261 or 2704-3955; ii) a polynucleotide comprising a coding region that hybridizes under conditions of high stringency to the complement of any one of SEQ ID NOS:1-1261; iii) a polynucleotide comprising a sequence that alters transcription of an operatively linked coding region in response to cold stress that hybridizes under conditions of high stringency to the complement of any one of SEQ ID NOS:2704-3955; iv) a polynucleotide that has at least 90% sequence identity with any one of SEQ ID NOS:1-1261 or 2704-3955; v) a fragment of any one of the sequences of iv), wherein the fragment comprises a coding region; or vi) a fragment of any one of the sequences of iv) wherein the fragment comprises a sequence or region that alters transcription of an operatively linked coding region in response to cold stress; and regenerating a plant from the at least one plant cell.

- In another aspect, the invention provides a method for producing a transgenic plant by introducing into at least one plant cell a recombinant nucleic acid construct comprising i) any one of SEQ ID NOS:2428-2585 or 5108-5263; ii) a polynucleotide comprising a coding region that hybridizes under conditions of high stringency to the complement of any one of SEQ ID NOS:2428-2585; iii) a polynucleotide comprising a sequence that alters transcription of an operatively linked coding region in response to osmotic stress that hybridizes under conditions of high stringency to the complement of any one of SEQ ID NOS:5108-5263; iv) a polynucleotide that has at least 90% sequence identity with any one of SEQ ID NOS:2428-2585 or 5108-5263; v) a fragment of any one of the sequences of iv), wherein the fragment comprises a coding region; or vi) a fragment of any one of the

sequences of iv), wherein the fragment comprises a sequence or region that alters transcription of an operatively linked coding region in response to osmotic stress; and regenerating a plant from the at least one plant cell.

- Still another aspect provides a method for producing a transgenic plant
- 5 comprising introducing into at least one plant cell a recombinant nucleic acid construct comprising i) any one of SEQ ID NOS:2227-2427 or 4910-5107; ii) a polynucleotide comprising a coding region that hybridizes under conditions of high stringency to the complement of any one of SEQ ID NOS:2227-2427; iii) a polynucleotide comprising a sequence that alters transcription of an operatively linked
- 10 coding region in response to saline stress that hybridizes under conditions of high stringency to the complement of any one of SEQ ID NOS:2227-2427; iv) a polynucleotide that has at least 90% sequence identity with any one of SEQ ID NOS:4910-5107; v) a fragment of any one of the sequences of iv), wherein the fragment comprises a coding region; or vi) a fragment of any one of the sequences of
- 15 iv) wherein the fragment comprises a sequence or region that alters transcription of an operatively linked coding region in response to saline stress; and regenerating a plant from the at least one plant cell.

- Yet another aspect provides a method for producing a transgenic plant comprising introducing into at least one plant cell a recombinant nucleic acid
- 20 construct comprising i) any one of SEQ ID NOS:1699-1969 or 4389-4654; ii) a polynucleotide comprising a coding region that hybridizes under conditions of high stringency to the complement of any one of SEQ ID NOS:1699-1969; iii) a polynucleotide comprising a sequence that alters transcription of an operatively linked coding region in response to a combination of cold and osmotic stress that hybridizes
- 25 under conditions of high stringency to the complement of any one of SEQ ID NOS:4389-4654; iv) a polynucleotide that has at least 90% sequence identity with any one of SEQ ID NOS:1699-1969 or 4389-4654; v) a fragment of any one of the sequences of iv), wherein the fragment comprises a coding region; or vi) a fragment of any one of the sequences of iv), wherein the fragment comprises a sequence or
- 30 region that alters transcription of an operatively linked coding region in response to a combination of cold and osmotic stress; and regenerating a plant from the at least one plant cell.

Yet another aspect provides a method for producing a transgenic plant comprising introducing into at least one plant cell a recombinant nucleic acid construct comprising i) any one of SEQ ID NOS:1970-2226 or 4655-4909; ii) a polynucleotide comprising a coding region that hybridizes under conditions of high stringency to the complement of any one of SEQ ID NOS:1970-2226; iii) a polynucleotide comprising a sequence that alters transcription of an operatively linked coding region in response to a combination of cold and saline stress that hybridizes under conditions of high stringency to the complement of any one of SEQ ID NOS:4655-4909; iv) a polynucleotide that has at least 90% sequence identity with any one of SEQ ID NOS:1970-2226 or 4655-4909; v) a fragment of any one of the sequences of iv), wherein the fragment comprises a coding region; or vi) a fragment of any one of the sequences of iv), wherein the fragment comprises a sequence or region that alters transcription of an operatively linked coding region in response to a combination of cold and saline stress; and regenerating a plant from the at least one plant cell.

A further aspect provides a method for producing a transgenic plant comprising introducing into at least one plant cell a recombinant nucleic acid construct comprising i) any one of SEQ ID NOS:2586-2703 or 5264-5379; ii) a polynucleotide comprising a coding region that hybridizes under conditions of high stringency to the complement of any one of SEQ ID NOS:2586-2703; iii) a polynucleotide comprising a sequence that alters transcription of an operatively linked coding region in response to a combination of osmotic and saline stress that hybridizes under conditions of high stringency to the complement of any one of SEQ ID NOS: 5264-5379; iv) a polynucleotide that has at least 90% sequence identity with any one of SEQ ID NOS:2586-2703 or 5264-5379; v) a fragment of any one of the sequences of iv), wherein the fragment comprises a coding region; or vi) a fragment of any one of the sequences of iv), wherein the fragment comprises a sequence or region that alters transcription of an operatively linked coding region in response to a combination of osmotic and saline stress; and regenerating a plant from the at least one plant cell.

Another aspect provides a method for producing a transgenic plant comprising introducing into at least one plant cell a recombinant nucleic acid construct

- comprising i) any one of SEQ ID NOS:1262-1698 or 3956-4388; ii) a polynucleotide comprising a coding region that hybridizes under conditions of high stringency to the complement of any one of SEQ ID NOS:1262-1698; iii) a polynucleotide comprising a sequence that alters transcription of an operatively linked coding region in response to a combination of cold, osmotic and saline stress that hybridizes under conditions of high stringency to the complement of any one of SEQ ID NOS:3956-4388; iv) a polynucleotide that has at least 90% sequence identity with any one of SEQ ID NOS:1262-1698 or 3956-4388; v) a fragment of any one of the sequences of iv), wherein the fragment comprises a coding region; or vi) a fragment of any one of the sequences of iv) wherein the fragment comprises a sequence or region that alters transcription of an operatively linked coding region in response to a combination of cold, osmotic and saline stress; and regenerating a plant from the at least one plant cell. Further aspects include plants and uniform populations of plants made by the above methods as well as seeds and progeny from such plants.
- In another embodiment, a transgene introduced into a plant cell according to a method of the invention can encode a polypeptide that regulates expression from an endogenous plant stress-regulated gene. Such a polypeptide can be, for example, a recombinantly produced polypeptide comprising a zinc finger domain, which is specific for the regulatory element, and an effector domain, which can be a repressor domain or an activator domain. The polynucleotide encoding the recombinant polypeptide can be operatively linked to and expressed from a constitutively active, inducible or tissue specific or phase specific regulatory element. Expression of the recombinant polypeptide from a plant stress-regulated promoter as disclosed herein can be particularly advantageous in that the polypeptide can be coordinately expressed with the endogenous plant stress-regulated genes upon exposure to a stress condition. The invention also provides transgenic plants produced by a method as disclosed, as well as to a plant cell obtained from such transgenic plant, wherein said plant cell exhibits altered responsiveness to the stress condition; a seed produced by the transgenic plant; and a cDNA or genomic DNA library prepared from the transgenic plant, or from a plant cell from said transgenic plant, wherein said plant cell exhibits altered responsiveness to the stress condition.

In one aspect, the invention provides an isolated nucleic acid molecule comprising a nucleotide sequence substantially similar to a sequence of any one of SEQ ID NOS:2704-5379, which can alter transcription of an operatively linked polynucleotide in a plant cell in response to an abiotic stress. Additional aspects of the invention provide isolated polynucleotides, including, for example, sequences substantially similar to any of SEQ ID NOS:2704-3955, which can alter transcription of an operatively linked polynucleotide in response to a cold stress; isolated polynucleotides substantially similar to a sequence of any of SEQ ID NOS:5108-5263, which can alter transcription of an operatively linked polynucleotide in response to an osmotic stress; isolated polynucleotides substantially similar to a sequence of any of SEQ ID NOS:4910-5107, which can alter transcription of an operatively linked polynucleotide in response to a saline stress; isolated polynucleotides substantially similar to a sequence of any of SEQ ID NOS:4389-4654, which can alter transcription of an operatively linked polynucleotide in response to a combination of cold and osmotic stresses; isolated polynucleotides substantially similar to a sequence of any of SEQ ID NOS:4655-4909, which can alter transcription of an operatively linked polynucleotide in response to a combination of cold and saline stresses; isolated polynucleotides substantially similar to a sequence of any of SEQ ID NOS:5264-5379, which can alter transcription of an operatively linked polynucleotide in response to a combination of osmotic and saline stresses; and isolated polynucleotides substantially similar to a sequence of any of SEQ ID NOS:3956-4388, which can alter transcription of an operatively linked polynucleotide in response to a combination of cold, osmotic and saline stresses.

Related aspects of the invention provide an isolated nucleotide sequences that can alter transcription of an operatively linked polynucleotide in response to an abiotic stress, and that hybridize under stringent conditions, preferably highly stringent conditions, to the complement of any one of SEQ ID NOS:2704-5379. Additional aspects provide an isolated nucleotide sequence that can alter transcription of an operatively linked polynucleotide in response to cold stress, and that hybridizes under stringent conditions, preferably highly stringent conditions, to the complement of any one of SEQ ID NOS:2704-3955; a nucleotide sequence that alters transcription of an operatively linked polynucleotide in response to osmotic stress, and that

- hybridizes under stringent conditions, preferably highly stringent conditions, to the complement of any one of SEQ ID NOS:5108-5263; a nucleotide sequence that alters transcription of an operatively linked polynucleotide in response to saline stress, and that hybridizes under stringent conditions, preferably highly stringent conditions, to the complement of any one of SEQ ID NOS:4910-5107; a nucleotide sequence that alters transcription of an operatively linked polynucleotide in response to a combination of cold and osmotic stress, and that hybridizes under stringent conditions, preferably highly stringent conditions, to the complement of any one of SEQ ID NOS:4389-4654; a nucleotide sequence that alters transcription of an operatively linked polynucleotide in response to a combination of cold and saline stress, and that hybridizes under stringent conditions, preferably highly stringent conditions, to the complement of any one of SEQ ID NOS:4655-4909; a nucleotide sequence that alters transcription of an operatively linked polynucleotide in response to an combination of osmotic and saline stress, and that hybridizes under stringent conditions, preferably highly stringent conditions, to the complement of any one of SEQ ID NOS:5264-5379; and a nucleotide sequence that alters transcription of an operatively linked polynucleotide in response to a combination of cold, osmotic and saline stress, and that hybridizes under stringent conditions, preferably highly stringent conditions, to the complement of any one of SEQ ID NOS:3956-4388.
- Further aspects provide an expression cassette comprising as operatively linked components any of the above isolated nucleic acid sequences that alter transcription, a coding region, and a termination sequence. Also provided are host cells and seeds comprising such expression cassettes, plants containing such host cells and seeds and progeny of plants containing said host cells. In related aspects, the coding region of the expression cassettes comprise sequences encoding marker proteins and sequences involved in gene silencing such as antisense sequences, double stranded RNAi sequences, a triplexing agent, and sequences comprising dominant negative mutations. In additional related aspects, the coding regions comprise sequences encoding polypeptides that alter the response of a plant to an abiotic stress.
- The present invention also relates to a method of modulating the responsiveness of a plant cell to a stress condition. Such a method can be performed, for example, by introducing a polynucleotide portion of a plant stress-regulated genes



described herein into the plant cell, thereby modulating the responsiveness of the plant cell to a stress condition. Such a method can result in the responsiveness of the plant cell being increased upon exposure to the stress condition, which, in turn, can result in increased or decreased tolerance of the plant cell to a stress condition; or can

5 result in the responsiveness of the plant cell to the stress condition being decreased, which, in turn, can result in increased or decreased tolerance of the plant cell to a stress condition. In one embodiment, the polynucleotide portion of the plant stress-regulated gene can integrate into the genome of the plant cell, thereby modulating the responsiveness of the plant cell to the stress condition. In another embodiment, the

10 polynucleotide portion of the plant stress-regulated gene encodes a stress-regulated polypeptide or functional peptide portion thereof, and can be operatively linked to a heterologous promoter. The polynucleotide portion of the plant stress-regulated gene also can contain a mutation, whereby upon integrating into the plant cell genome, the polynucleotide disrupts (knocks-out) an endogenous plant stress-regulated sequence,

15 thereby modulating the responsiveness of the plant cell to the stress condition. Depending on whether the knocked-out gene encodes an adaptive or a maladaptive stress-regulated polypeptide, the responsiveness of the plant will be modulated accordingly. In still another embodiment, the polynucleotide portion of the plant stress-regulated gene can comprise a stress-regulated regulatory element, which can

20 be operatively linked to a heterologous nucleotide sequence, the expression of which can modulate the responsiveness of the plant cell to a stress condition. Such a heterologous nucleotide sequence can encode, for example, a stress-inducible transcription factor such as DREB1A. The heterologous nucleotide sequence also can encode a polynucleotide that is specific for a plant stress-regulated gene, for example,

25 an antisense molecule, an RNAi molecule, a ribozyme, and a triplexing agent, any of which, upon expression in the plant cell, reduces or inhibits expression of a stress-regulated polypeptide encoded by the gene, thereby modulating the responsiveness of the plant cell to a stress condition, for example, an abnormal level of cold, osmotic pressure, and salinity. Accordingly, the invention also relates to a plant cell obtained

30 by such a method, and to a plant comprising such a plant cell.

The present invention also relates to a method of expressing a heterologous nucleotide sequence in a plant cell. Such a method can be performed, for example, by

introducing into the plant cell a plant stress-regulated regulatory element operatively linked to the heterologous nucleotide sequence, whereby, upon exposure of the plant cell to a stress condition, the heterologous nucleotide sequence is expressed in the plant cell. In a preferred embodiment, the stress regulated element is any of the

5 sequences described herein that are capable of altering transcription of an operatively linked sequence in response to an abiotic stress, for example, SEQ ID NOS:2704-5379. The heterologous nucleotide sequence can encode a selectable marker, a diagnostic marker, or a polypeptide that confers a desirable trait upon the plant cell, for example, a polypeptide that improves the nutritional value, digestibility

10 or ornamental value of the plant cell, or a plant comprising the plant cell.

The present invention further relates to a method of modulating the activity of a biological pathway in a plant cell, wherein the pathway involves a stress-regulated polypeptide or a non-protein regulatory molecule. Such a method can be performed by introducing a polynucleotide portion of a plant stress-regulated gene, or a

15 polynucleotide derived therefrom, for example a ribozyme derived from a nucleotide sequence as set forth in any of SEQ ID NOS:1-2703, into the plant cell, thereby modulating the activity of the biological pathway. The method can be performed with respect to a pathway involving any of the stress-regulated polypeptides as disclosed herein or encoded by the polynucleotides disclosed herein, as well as using homologs

20 or orthologs thereof.

The present invention also relates to a method of identifying a polynucleotide that modulates a stress response in a plant cell. In one embodiment the method comprises determining gene expression in a plant exposed to at least one stress to produce an expression profile and identifying sequences whose expression is altered

25 at least two fold compared to plants not exposed to the stress. Such an expression profile can be obtained, for example, by contacting an array of probes representative of a plant cell genome with nucleic acid molecules expressed in a plant cell exposed to the stress; and detecting one or more nucleic acid molecules expressed at a level different from a level of expression in the absence of the stress. The method can

30 further comprise introducing the differentially expressed nucleic acid molecule into a plant cell; and detecting a modulated response of the genetically modified plant cell to a stress, thereby identifying a polynucleotide that modulates a stress response in a

plant cell. The stress can be any stress, for example, an abiotic stress such as exposure to an abnormal level of cold, osmotic pressure, and salinity. The contacting is under conditions that allow for selective hybridization of a nucleic acid molecule with probe having sufficient complementarity, for example, under stringent hybridization conditions. Expression of the nucleic acid molecule can increase or decrease the tolerance of the plant cell to the stress, and the nucleic acid molecule can be expressed at a level that is less than or greater than the level of expression in the absence of the stress.

The present invention additionally relates to a method of identifying a stress condition to which a plant cell was exposed by comparing an expression profile from a test plant suspected of having been exposed to at least one stress condition to an expression profile obtained from a reference plant, preferably of the same species, which has been exposed to the suspected stress condition. Such a method can be performed, for example, by contacting nucleic acid molecules expressed in the test plant cell with an array of probes representative of the plant cell genome; detecting a profile of expressed nucleic acid molecules characteristic of a stress response, and comparing the expression pattern in the test plant to the expression pattern obtained from a reference plant thereby identifying the stress condition to which the plant cell was exposed. The contacting is under conditions that allow for selective hybridization of a nucleic acid molecule with probes having sufficient complementarity, for example, under stringent hybridization conditions. The profile can be characteristic of exposure to a single stress condition, for example, an abnormal level of cold, osmotic pressure, or salinity, or can be characteristic of exposure to more than one stress condition, for example, cold, increased osmotic pressure and increased salinity. In one embodiment, the nucleotide sequence of a gene whose expression is detected is selected from a polynucleotide comprising any of SEQ ID NOS:1-2703. In further embodiments, the nucleotide sequence of a gene that is expressed in response a particular stress or combination of stresses can comprise a polynucleotide expressed in response to cold stress (SEQ ID NOS:1-1261), osmotic stress (SEQ ID NOS:2428-2585), saline (salt) stress (SEQ ID NOS:2227-2427), a combination of cold and osmotic stress (SEQ ID NOS:1699-1969), a combination of saline and osmotic stress (SEQ ID NOS:1970-

2226), a combination of osmotic and saline stress (SEQ ID NOS:2586-2703), or a combination of cold, osmotic and saline stress (SEQ ID NOS:1262-1698).

The present invention further relates to a transgenic plant, which contains a nucleic acid construct comprising a polynucleotide portion of plant stress-regulated polynucleotide. In one embodiment, the transgenic plant exhibits altered responsiveness to a stress condition as compared to a corresponding reference plant not containing the construct. Such a transgenic plant can contain, for example, a construct that disrupts an endogenous stress-regulated gene in the plant, thereby reducing or inhibiting expression of the gene in response to a stress condition. Such a knock-out can increase or decrease tolerance of the plant to a stress condition. The transgene also can comprise a coding sequence of a plant stress-regulated gene, which can be operatively linked to a heterologous regulatory element such as a constitutively active regulatory element, an regulated regulatory element, a tissues specific or phase specific regulatory element, or the like. In another embodiment, the transgenic plant contains a nucleic acid construct comprising a plant stress-regulated regulatory element, which can be operatively linked to a heterologous nucleotide sequence that can encode a polypeptide. Expression of the heterologous polypeptide can confer a desirable characteristic on the plant, for example, can improve the nutritional or ornamental value of the transgenic plant. In still another embodiment, the transgenic plant contains multiple nucleic acid constructs, which can be multiple copies of the same construct, or can be two or more different constructs.

The present invention also relates to a plant stress-regulated regulatory element, which is obtained from a plant stress-regulated polynucleotide disclosed herein for example any of SEQ ID NOS:2704-5379; a homolog or ortholog thereof. The invention also provides a method of identifying an agent, for example a transcription factor, that specifically binds to or activates a plant stress-regulated regulatory element. Such a method can be performed, for example, by contacting the regulatory element with a plant cell extract, and identifying polypeptides that specifically bind to the regulatory element. Confirmation that the specifically binding polypeptide is a transcription factor can be demonstrated using, for example, the stress-regulated regulatory element operably linked to a reporter gene, and detecting expression of the reporter gene. Control constructs comprising a regulatory element, other than a plant stress-regulated regulatory element, operatively linked to a reporter molecule can be used to confirm

that the transcription factor is specific for the plant stress-regulated regulatory element. A polynucleotide encoding such a transcription factor also can be obtained.

The present invention also relates to a method of using a polynucleotide portion of a plant stress-regulated gene to confer a selective advantage on a plant cell.

- 5 In one embodiment, such a method is performed by introducing a plant stress-regulated regulatory element into a plant cell such as those described herein, wherein, upon exposure of the plant cell to a stress condition to which the regulatory element is responsive, a nucleotide sequence operatively linked to the regulatory element is expressed, thereby conferring a selective advantage to plant cell. The operatively
- 10 linked nucleotide sequence can be, for example, a transcription factor, the expression of which induces the further expression of polynucleotides involved in a stress response, thereby enhancing the response of a plant to the stress condition. In another embodiment, a coding sequence of a plant stress-regulated gene as disclosed herein is introduced into the cell, thereby providing the plant with a selective advantage in
- 15 response to a stress condition. In still another embodiment, the method results in the knock-out of a plant stress-regulated gene as disclosed herein in a first population of plants, thereby providing a selective advantage to a stress condition in a second population of plants.

- The invention further relates to a method of identifying an agent that
- 20 modulates the activity of a stress-regulated regulatory element of a plant. In a particular embodiment, is provided a method for identifying an agent that alters the activity of an abiotic stress responsive regulatory element comprising contacting the agent or a composition containing an agent to be tested with at least one abiotic stress responsive regulatory element, preferably selected from the group consisting of SEQ
- 25 ID NOS:2704-5379 (see Table 2), and determining the effect of the agent on the ability of the regulatory sequence to regulate transcription. In further embodiments, the regulatory elements are associated with particular stresses or combination of stresses such as cold stress (SEQ ID NOS:2704-3955), osmotic stress (SEQ ID NOS:5108-5263), saline stress (SEQ ID NOS:4910-5107), a combination of cold and
- 30 osmotic stress (SEQ ID NOS:4389-4654), a combination of cold and saline stress (SEQ ID NOS:4655-4909), a combination of osmotic and saline stress (SEQ ID NOS:5264-5379), or a combination of cold, osmotic and saline stress (SEQ ID

NOS:3956-4388). In one embodiment, the regulatory element can be operatively linked to a heterologous polynucleotide encoding a reporter molecule, and an agent that modulates the activity of the stress-regulated regulatory element can be identified by detecting a change in expression of the reporter molecule due to contacting the regulatory element with the agent. Such a method can be performed *in vitro* in a plant cell-free system, or in a plant cell in culture or in a plant *in situ*. In another embodiment, the agent is contacted with a transgenic plant containing an introduced plant stress-regulated regulatory element, and an agent that modulates the activity of the regulatory element is identified by detecting a phenotypic change in the transgenic plant. The methods of the invention can be performed in the presence or absence of the stress condition to which the particularly regulatory element is responsive.

Another aspect provides a method for identifying an agent that alters abiotic stress responsive polynucleotide expression in a plant or plant cell comprising contacting a plant or plant cell with a test agent; subjecting the plant cell or plant cell to an abiotic stress or combination of stresses before, during or after contact with the agent to be tested; obtaining an expression profile of the plant or plant cell and comparing the expression profile of the plant or plant cell to an expression profile from a plant or plant cell not exposed to the abiotic stress or combination of stresses. In one embodiment, the expression profile comprises expression data for at least one nucleotide sequence comprising any of SEQ ID NOS:1-5379 (see Tables 1 and 2). In additional embodiments, the expression profile comprises expression data for at least one, and preferably two or more sequences associated with a particular abiotic stress or combination of stresses such as cold stress (SEQ ID NOS:1-1261 and 2704-3955), osmotic stress (SEQ ID NOS:2428-2585 and 5108-5263), saline stress (SEQ ID NOS:2227-2427 and 4910-5107), a combination of cold and osmotic stress (SEQ ID NOS:1699-1969 and 4389-4654), a combination of cold and saline stress (SEQ ID NOS:1970-2226 and 4655-4909), a combination of osmotic and saline stress (SEQ ID NOS:2586-2703 and 5264-5379), or a combination of cold, osmotic and saline stress (SEQ ID NOS:1262-1698 and 3956-4388).

Still another aspect provides nucleotide probes useful for detecting an abiotic stress response in plants, the probes comprising a nucleotide sequence of at least 15, 25, 50 or 100 nucleotides that hybridizes under stringent, preferably highly stringent,

conditions to at least one sequence comprising any of SEQ ID NOS:1-2703. Also provided are nucleotide probes comprising at least 15, 25, 50 or 100 nucleotides in length that hybridize under stringent, preferably highly stringent conditions, to at least one gene associated with a particular stress or combination of stresses, for example

5 cold stress, (SEQ ID NOS:1-1261), osmotic stress (SEQ ID NOS:2428-2585), saline stress (SEQ ID NOS:2227-2427), a combination of cold and osmotic stress (SEQ ID NOS:1699-1969), a combination of cold and saline stress (SEQ ID NOS:1970-2226), a combination of osmotic and saline stress (SEQ ID NOS:2586-2703), or a combination of cold, osmotic, and saline stress (SEQ ID NOS:1262-1698).

10 An additional aspect provides a method for marker-assisted breeding to select plants having an altered resistance to abiotic stress comprising obtaining nucleic acid molecules from the plants to be selected; contacting the nucleic acid molecules with one or more probes that selectively hybridize under stringent, preferably highly stringent, conditions to a nucleic acid sequence selected from the group consisting of

15 SEQ ID NOS:1-2703; detecting the hybridization of the one or more probes to the nucleic acid sequences wherein the presence of the hybridization indicates the presence of a gene associated with altered resistance to abiotic stress; and selecting plants on the basis of the presence or absence of such hybridization. Marker-assisted selection can also be accomplished using one or more probes which selectively

20 hybridize under stringent, preferably highly stringent conditions, to a nucleotide sequence comprising a polynucleotide expressed in response associated with a particular stress, for example, a nucleotide sequence comprising any of SEQ ID NOS:1-1261 (cold stress), SEQ ID NOS:2428-2585 (osmotic stress), SEQ ID NOS:2227-2427 (saline stress), SEQ ID NOS:1699-1969 (cold and osmotic stress),

25 SEQ ID NOS:1970-2226 (cold and saline stress), SEQ ID NOS:2586-2703 (osmotic and saline stress), or SEQ ID NOS:1262-1698 (cold, osmotic and saline stress). In each case marker-assisted selection can be accomplished using a probe or probes to a single sequence or multiple sequences. If multiple sequences are used they can be used simultaneously or sequentially.

30 A further aspect provides a method for monitoring a population of plants comprising providing at least one sentinel plant containing a recombinant polynucleotide comprising a stress responsive regulatory sequence selected from the

group consisting of SEQ ID NOS:2704-5379 which is operatively linked to a nucleotide sequence encoding a detectable marker, for example a fluorescent protein. Additional aspects provide the use of various regulatory sequences including those associated with cold stress (SEQ ID NOS:2704-3955), osmotic stress (SEQ ID NOS:5108-5263), saline stress (SEQ ID NOS:4910-5107), cold and osmotic stress (SEQ ID NOS:4389-4654), cold and saline stress (SEQ ID NOS:4655-4909), osmotic and saline stress (SEQ ID NOS:5264-5379), and cold, osmotic and saline stress (SEQ ID NOS:3956-4388), or fragments thereof wherein such fragments can alter transcription of an operatively linked nucleotide sequence in response to an abiotic stress.

A further aspect provides a computer readable medium having stored thereon computer executable instructions for performing a method comprising receiving data on gene expression in a test plant of at least one nucleic acid molecule having at least 70%, preferably at least 80%, more preferably at least 90%, and most preferably at least 95% nucleotide sequence identity to one or more polynucleotide sequences as set forth in any of SEQ ID NOS:1-2703; and comparing expression data from the test plant to expression data for the same polynucleotide sequence or sequences in a plant that has been exposed to at least one abiotic stress.

Yet a further aspect provides a computer readable medium having stored thereon a data structure comprising, sequence data for at least one, and preferably a plurality of nucleic acid molecules having at least 70%, preferably at least 80%, more preferably at least 90%, and most preferably at least 95% nucleotide sequence identity to a polynucleotide comprising any of SEQ ID NOS:1-2703, or the complement thereof; and a module receiving the nucleic acid molecule sequence data which compares the nucleic acid molecule sequence data to at least one other nucleic acid sequence.

#### DETAILED DESCRIPTION OF THE INVENTION

The present invention relates to clusters of genes that are induced in response to one or a combination of abiotic stress conditions. Abiotic stress conditions, such as a shortage or excess of solar energy, water and nutrients, and salinity, high and low temperature, or pollution (e.g., heavy metals), can have a major impact on plant growth and can significantly reduce the yield, for example, of cultivars. Under



- conditions of abiotic stress, the growth of plant cells is inhibited by arresting the cell cycle in late G1, before DNA synthesis, or at the G2/M boundary (see Dudits, Plant Cell Division, Portland Press Research, Monograph; Francis, Dudits, and Inze, eds., 1997; chap. 2, page 21; Bergounioux, Protoplasma 142:127-136, 1988). The
- 5 identification of stress-regulated gene clusters, using microarray technology, provides a means to identify plant stress-regulated genes.

- As used herein, the term "cluster," when used in reference to stress-regulated genes, refers to nucleotide sequences of genes that have been selected by drawing Venn diagrams, and selecting those genes that are regulated only by a selected stress condition.
- 10 In general, a cluster of stress-regulated genes includes at least 5, 10, 15, or 20 genes, including polynucleotide portions thereof, each of which is responsive to the same selected stress condition or conditions. The selected stress condition can be a single stress condition, for example, cold, osmotic stress or salinity stress (see Tables 3-14), or can be a selected combination of stress conditions, for example, cold, osmotic stress and
- 15 salinity stress (see Tables 15-26). In addition, a cluster can be selected based on specifying that all of the genes are coordinately regulated, for example, they all start at a low level and are induced to a higher level. However, a cluster of saline stress-regulated genes, for example, that was selected for coordinate regulation from low to high, also can be decreased in response to cold or mannitol. By varying the parameters used for
- 20 selecting a cluster of gene nucleotide sequences, those genes that are expressed in a specific manner following a stress can be identified.

- As used herein in reference to a polynucleotide or polynucleotide portion of a gene or nucleic acid molecule, the term "isolated" means a polynucleotide, polynucleotide portion of a gene, or nucleic acid molecule that is free of one or both
- 25 of the nucleotide sequences that normally flank the polynucleotide in a genome of a naturally-occurring organism from which the polynucleotide is derived. The term includes, for example, a polynucleotide or fragment thereof that is incorporated into a vector or expression cassette; into an autonomously replicating plasmid or virus; into the genomic DNA of a prokaryote or eukaryote; or that exists as a separate molecule
- 30 independent of other polynucleotides. It also includes a recombinant polynucleotide that is part of a hybrid polynucleotide, for example, one encoding a polypeptide sequence.

The terms "polynucleotide," "oligonucleotide," and "nucleic acid sequence" are used interchangeably herein to refer to a polymeric (2 or more monomers) form of nucleotides of any length, either ribonucleotides or deoxyribonucleotides. Although nucleotides are usually joined by phosphodiester linkages, the term also includes polymers containing neutral amide backbone linkages composed of aminoethyl glycine units. The terms are used only to refer to the primary structure of the molecule. Thus, the term includes double stranded and single stranded DNA molecules, including a sense strand or an antisense strand, and RNA molecules as well as genomic DNA, cDNA, mRNA and the like. It will be recognized that such polynucleotides can be modified, for example, by including a label such as a radioactive, fluorescent or other tag, by methylation, by the inclusion of a cap structure, by containing a substitution of one or more of the naturally occurring nucleotides with a nucleotide analog, by containing an internucleotide modification such as having uncharged linkages (e.g., methyl phosphonates, phosphotriesters, phosphoramidates, carbamates, or the like), by containing a pendant moiety such as a protein (e.g., a nuclease, toxin, antibody, signal peptide, poly-L-lysine, or the like), by containing an intercalator such as acridine or psoralen, by containing a chelator, which can be a metal such as boron, an oxidative metal, or a radioactive metal, by containing an alkylator, or by having a modified linkage (e.g., an alpha anomeric nucleic acid).

The term "recombinant nucleic acid molecule" refers to a polynucleotide produced by human intervention. A recombinant nucleic acid molecule can contain two or more nucleotide sequences that are linked in a manner such that the product is not found in a cell in nature. In particular, the two or more nucleotide sequences can be operatively linked and, for example, can encode a fusion polypeptide, or can comprise a nucleotide sequence and a regulatory element. A recombinant nucleic acid molecule also can be based on, but different, from a naturally occurring polynucleotide, for example, a polynucleotide having one or more nucleotide changes such that a first codon, which normally is found in the polynucleotide, is replaced with a degenerate codon that encodes the same or a conservative amino acid, or such that a sequence of interest is introduced into the polynucleotide, for example, a

restriction endonuclease recognition site or a splice site, a promoter, a DNA replication initiation site, or the like.

As used herein, the term "abiotic stress" or "abiotic stress condition" refers to the exposure of a plant, plant cell, or the like, to a non-living ("abiotic") physical or chemical agent or condition that has an adverse effect on metabolism, growth, development, propagation and/or survival of the plant (collectively "growth"). An abiotic stress can be imposed on a plant due, for example, to an environmental factor such as water (e.g., flooding, drought, dehydration), anaerobic conditions (e.g., a low level of oxygen), abnormal osmotic conditions, salinity or temperature (e.g., hot/heat, cold, freezing, frost), a deficiency of nutrients or exposure to pollutants, or by a hormone, second messenger or other molecule. Anaerobic stress, for example, is due to a reduction in oxygen levels (hypoxia or anoxia) sufficient to produce a stress response. A flooding stress can be due to prolonged or transient immersion of a plant, plant part, tissue or isolated cell in a liquid medium such as occurs during monsoon, wet season, flash flooding or excessive irrigation of plants, or the like. A cold stress or heat stress can occur due to a decrease or increase, respectively, in the temperature from the optimum range of growth temperatures for a particular plant species. Such optimum growth temperature ranges are readily determined or known to those skilled in the art. Dehydration stress can be induced by the loss of water, reduced turgor, or reduced water content of a cell, tissue, organ or whole plant. Drought stress can be induced by or associated with the deprivation of water or reduced supply of water to a cell, tissue, organ or organism. Saline stress (salt stress) can be associated with or induced by a perturbation in the osmotic potential of the intracellular or extracellular environment of a cell. Osmotic stress also can be associated with or induced by a change, for example, in the concentration of molecules in the intracellular or extracellular environment of a plant cell, particularly where the molecules cannot be partitioned across the plant cell membrane.

As disclosed herein, clusters of plant stress-regulated genes (Example 1; see, also, Tables 1-31) and homologs and orthologs thereof (Table 32) have been identified. Remarkably, several of the stress-regulated genes previously were known to encode polypeptides having defined cellular functions, including roles as transcription factors, enzymes such as kinases, and structural proteins such as channel proteins (see

- Tables 29-31). The identification of *Arabidopsis* stress-regulated genes provides a means to identify homologous and orthologous genes and gene sequences in other plant species using well known procedures and algorithms based on identity (or homology) to the disclosed sequences. Thus, the invention provides polynucleotide sequences
- 5 comprising plant stress-regulated genes that are homologs or orthologs, variants, or otherwise substantially similar to the polynucleotides disclosed herein, and having an E value  $\leq 1 \times 10^{-8}$ , which can be identified, for example, by a BLASTN search using the *Arabidopsis* polynucleotides of Tables 1 and 2 (SEQ ID NOS:1-5379) as query sequences (see Table 32).
- 10 A polynucleotide sequence of a stress-regulated gene as disclosed herein can be particularly useful for performing the methods of the invention on a variety of plants, including but not limited to, corn (*Zea mays*), *Brassica* sp. (e.g., *B. napus*, *B. rapa*, *B. juncea*), particularly those *Brassica* species useful as sources of seed oil, alfalfa (*Medicago sativa*), rice (*Oryza sativa*), rye (*Secale cereale*), sorghum
- 15 (*Sorghum bicolor*, *Sorghum vulgare*), millet (e.g., pearl millet (*Pennisetum glaucum*), proso millet (*Panicum miliaceum*), foxtail millet (*Setaria italica*), finger millet (*Eleusine coracana*)), sunflower (*Helianthus annuus*), safflower (*Carthamus tinctorius*), wheat (*Triticum aestivum*), soybean (*Glycine max*), tobacco (*Nicotiana tabacum*), potato (*Solanum tuberosum*), peanuts (*Arachis hypogaea*), cotton
- 20 (*Gossypium barbadense*, *Gossypium hirsutum*), sweet potato (*Ipomoea batatas*), cassava (*Manihot esculenta*), coffee (*Cofea* spp.), coconut (*Cocos nucifera*), pineapple (*Ananas comosus*), citrus trees (*Citrus* spp.), cocoa (*Theobroma cacao*), tea (*Camellia sinensis*), banana (*Musa* spp.), avocado (*Persea utiliane*), fig (*Ficus casica*), guava (*Psidium guajava*), mango (*Mangifera indica*), olive (*Olea europaea*),
- 25 papaya (*Carica papaya*), cashew (*Anacardium occidentale*), macadamia (*Macadamia integrifolia*), almond (*Prunus amygdalus*), sugar beets (*Beta vulgaris*), sugarcane (*Saccharum* spp.), oats, duckweed (*Lemna*), barley, tomatoes (*Lycopersicon esculentum*), lettuce (e.g., *Lactuca sativa*), green beans (*Phaseolus vulgaris*), lima beans (*Phaseolus limensis*), peas (*Lathyrus* spp.), and members of the genus *Cucumis*
- 30 such as cucumber (*C. sativus*), cantaloupe (*C. cantalupensis*), and musk melon (*C. melo*). Ornamentals such as azalea (*Rhododendron* spp.), hydrangea (*Macrophylla hydrangea*), hibiscus (*Hibiscus rosasanensis*), roses (*Rosa* spp.), tulips (*Tulipa* spp.),

- daffodils (*Narcissus* spp.), petunias (*Petunia hybrida*), carnation (*Dianthus caryophyllus*), poinsettia (*Euphorbia pulcherrima*), and chrysanthemum are also included. Additional ornamentals within the scope of the invention include impatiens, Begonia, Pelargonium, Viola, Cyclamen, Verbena, Vinca, Tagetes, Primula, Saint
- 5 Paulia, Agertum, Amaranthus, Antihirrhinum, Aquilegia, Cineraria, Clover, Cosmo, Cowpea, Dahlia, Datura, Delphinium, Gerbera, Gladiolus, Gloxinia, Hippeastrum, Mesembryanthemum, Salpiglossos, and Zinnia. Conifers that may be employed in practicing the present invention include, for example, pines such as loblolly pine (*Pinus taeda*), slash pine (*Pinus elliotii*), ponderosa pine (*Pinus ponderosa*),
- 10 lodgepole pine (*Pinus contorta*), and Monterey pine (*Pinus radiata*), Douglas-fir (*Pseudotsuga menziesii*), Western hemlock (*Tsuga ultilane*); Sitka spruce (*Picea glauca*); redwood (*Sequoia sempervirens*); true firs such as silver fir (*Abies amabilis*) and balsam fir (*Abies balsamea*); and cedars such as Western red cedar (*Thuja plicata*) and Alaska yellow-cedar (*Chamaecyparis nootkatensis*).
- 15 Leguminous plants which may be used in the practice of the present invention include beans and peas. Beans include guar, locust bean, fenugreek, soybean, garden beans, cowpea, mung bean, lima bean, fava bean, lentils, chickpea, etc. Legumes include, but are not limited to, *Arachis*, e.g., peanuts, *Vicia*, e.g., crown vetch, hairy vetch, adzuki bean, mung bean, and chickpea, *Lupinus*, e.g., lupine, trifolium,
- 20 *Phaseolus*, e.g., common bean and lima bean, *Pisum*, e.g., field bean, *Melilotus*, e.g., clover, *Medicago*, e.g., alfalfa, Lotus, e.g., trefoil, lens, e.g., lentil, and false indigo. Preferred forage and turf grass for use in the methods of the invention include alfalfa, orchard grass, tall fescue, perennial ryegrass, creeping bent grass, and redtop.
- Other plants within the scope of the invention include *Acacia*, aneth,
- 25 artichoke, arugula, blackberry, canola, cilantro, clementines, escarole, eucalyptus, fennel, grapefruit, honey dew, jicama, kiwifruit, lemon, lime, mushroom, nut, okra, orange, parsley, persimmon, plantain, pomegranate, poplar, radiata pine, radicchio, Southern pine, sweetgum, tangerine, triticale, vine, yams, apple, pear, quince, cherry, apricot, melon, hemp, buckwheat, grape, raspberry, chenopodium, blueberry,
- 30 nectarine, peach, plum, strawberry, watermelon, eggplant, pepper, cauliflower, Brassica, e.g., broccoli, cabbage, ultilan sprouts, onion, carrot, leek, beet, broad bean,

celery, radish, pumpkin, endive, gourd, garlic, snapbean, spinach, squash, turnip, uiltilane, chicory, groundnut and zucchini.

As used herein, the term "substantially similar", when used herein with respect to a nucleotide sequence, means a nucleotide sequence corresponding to a reference nucleotide sequence, wherein the corresponding sequence encodes a polypeptide or comprises a regulatory element having substantially the same structure and function as the polypeptide encoded by the reference nucleotide sequence, for example, where only changes in amino acids not affecting the polypeptide function occur. For purposes of the present invention, a reference (or query) sequence is a polynucleotide sequence as set forth in any of SEQ ID NOS:1-2703 or a polypeptide encoded thereby. Desirably, a substantially similar nucleotide sequence encodes the polypeptide encoded by the reference nucleotide sequence. The percentage of identity between the substantially similar nucleotide sequence and the reference nucleotide sequence desirably is at least 60%, more desirably at least 75%, preferably at least 90%, more preferably at least 95%, still more preferably at least 99% and including 100%. A nucleotide sequence is "substantially similar" to reference nucleotide sequence hybridizes to the reference nucleotide sequence in 7% sodium dodecyl sulfate (SDS), 0.5 M NaPO<sub>4</sub>, 1 mM EDTA at 50°C with washing in 2X SSC, 0.1% SDS at 50°C, more desirably in 7% sodium dodecyl sulfate (SDS), 0.5 M NaPO<sub>4</sub>, 1 mM EDTA at 50°C with washing in 1X SSC, 0.1% SDS at 50°C (stringent conditions), more desirably still in 7% sodium dodecyl sulfate (SDS), 0.5 M NaPO<sub>4</sub>, 1 mM EDTA at 50°C with washing in 0.5X SSC, 0.1% SDS at 50°C (high stringency), preferably in 7% sodium dodecyl sulfate (SDS), 0.5 M NaPO<sub>4</sub>, 1 mM EDTA at 50°C with washing in 0.1X SSC, 0.1% SDS at 50°C (very high stringency), more preferably in 7% sodium dodecyl sulfate (SDS), 0.5 M NaPO<sub>4</sub>, 1 mM EDTA at 50°C with washing in 0.1X SSC, 0.1% SDS at 65°C (extremely high stringency).

In addition, the term "substantially similar," when used in reference to a polypeptide sequence, means that an amino acid sequence relative to a reference (query) sequence shares at least about 65% amino acid sequence identity, particularly at least about 75% amino acid sequence identity, and preferably at least about 85%, more

- preferably at least about 90% , and most preferably at least about 95% or greater amino acid sequence identity. Generally, sequences having an  $E \leq 10^{-8}$  are considered to be substantially similar to a query sequence. Such sequence identity can take into account conservative amino acid changes that do not substantially affect the function of a polypeptide. As such, homologs or orthologs of the *Arabidopsis* stress-regulated nucleotide sequences disclosed herein, variants thereof, and polypeptides substantially similar to the polynucleotide sequence of *Arabidopsis* stress-regulated genes set forth in SEQ ID NOS:1-5379 are encompassed within the present invention and, therefore, useful for practicing the methods of the invention (see, for example, Table 32).
- 10 Homology or identity is often measured using sequence analysis software such as the Sequence Analysis Software Package of the Genetics Computer Group (University of Wisconsin Biotechnology Center, 1710 University Avenue, Madison, WI 53705). Such software matches similar sequences by assigning degrees of homology to various deletions, substitutions and other modifications. The terms "homology" and
- 15 "identity," when used herein in the context of two or more nucleic acids or polypeptide sequences, refer to two or more sequences or subsequences that are the same or have a specified percentage of amino acid residues or of nucleotides that are the same when compared and aligned for maximum correspondence over a comparison window or designated region as measured using any number of sequence comparison algorithms or
- 20 by manual alignment and visual inspection.
- For sequence comparison, typically one sequence acts as a reference sequence, to which test sequences are compared. When using a sequence comparison algorithm, test and reference sequences are entered into a computer, subsequence coordinates are designated, if necessary, and sequence algorithm program parameters are designated.
- 25 Default program parameters can be used, or alternative parameters can be designated. The sequence comparison algorithm then calculates the percent sequence identities for the test sequences relative to the reference sequence, based on the program parameters.
- The term "comparison window" is used broadly herein to include reference to a segment of any one of the number of contiguous positions, for example, about 20 to
- 30 600 positions, for example, amino acid or nucleotide position, usually about 50 to about 200 positions, more usually about 100 to about 150 positions, in which a sequence may be compared to a reference sequence of the same number of contiguous positions

- after the two sequences are optimally aligned. Methods of alignment of sequence for comparison are well-known in the art. Optimal alignment of sequences for comparison can be conducted, for example, by the local homology algorithm of Smith and Waterman (Adv. Appl. Math. 2:482, 1981), by the homology alignment algorithm of Needleman and Wunsch (J. Mol. Biol. 48:443, 1970), by the search for similarity method of Person and Lipman (Proc. Natl. Acad. Sci., USA 85:2444, 1988), each of which is incorporated herein by reference; by computerized implementations of these algorithms (GAP, BESTFIT, FASTA, and TFASTA in the Wisconsin Genetics Software Package, Genetics Computer Group, 575 Science Dr., Madison, WI); or by manual alignment and visual inspection. Other algorithms for determining homology or identity include, for example, in addition to a BLAST program (Basic Local Alignment Search Tool at the National Center for Biological Information), ALIGN, AMAS (Analysis of Multiply Aligned Sequences), AMPS (Protein Multiple Sequence Alignment), ASSET (Aligned Segment Statistical Evaluation Tool), BANDS, BESTSCOR, BIOSCAN (Biological Sequence Comparative Analysis Node), BLIMPS (BLOCKS IMPROVED SEARCHER), FASTA, INTERVALS & POINTS, BMB, CLUSTAL V, CLUSTAL W, CONSENSUS, LCONSENSUS, WCONSENSUS, Smith-Waterman algorithm, DARWIN, Las Vegas algorithm, FNAT (Forced Nucleotide Alignment Tool), Framealign, Framesearch, DYNAMIC, FILTER, FSAP (Fristensky Sequence Analysis Package), GAP (Global Alignment Program), GENAL, GIBBS, GenQuest, ISSC (Sensitive Sequence Comparison), LALIGN (Local Sequence Alignment), LCP (Local Content Program), MACAW (Multiple Alignment Construction & Analysis Workbench), MAP (Multiple Alignment Program), MBLKP, MBLKN, PIMA (Pattern-Induced Multi-sequence Alignment), SAGA (Sequence Alignment by Genetic Algorithm) and WHAT-IF. Such alignment programs can also be used to screen genome databases to identify polynucleotide sequences having substantially identical sequences.

- A number of genome databases are available for comparison. Several databases containing genomic information annotated with some functional information are maintained by different organizations, and are accessible via the internet, for example, at world wide web addresses (url's) "[www.tigr.org/tdb](http://www.tigr.org/tdb)"; "[genetics.wisc.edu](http://genetics.wisc.edu)";



"genome-www.stanford.edu/~ball"; "hiv-web.lanl.gov"; "ncbi.nlm.nih.gov"; "ebi.ac.uk"; "Pasteur.fr/other/biology"; and "genome.wi.mit.edu".

- In particular, the BLAST and BLAST 2.0 algorithms using default parameters are particularly useful for identifying polynucleotide and polypeptides encompassed
- 5 within the present invention (Altschul et al. (Nucleic Acids Res. 25:3389-3402, 1977; J. Mol. Biol. 215:403-410, 1990, each of which is incorporated herein by reference). Software for performing BLAST analyses is publicly available through the National Center for Biotechnology Information (<http://www.ncbi.nlm.nih.gov>). This algorithm involves first identifying high scoring sequence pairs (HSPs) by identifying short words
- 10 of length W in the query sequence, which either match or satisfy some positive-valued threshold score T when aligned with a word of the same length in a database sequence. T is referred to as the neighborhood word score threshold (Altschul et al., *supra*, 1977, 1990). These initial neighborhood word hits act as seeds for initiating searches to find longer HSPs containing them. The word hits are extended in both directions along each
- 15 sequence for as far as the cumulative alignment score can be increased. Cumulative scores are calculated using, for nucleotide sequences, the parameters M (reward score for a pair of matching residues; always >0). For amino acid sequences, a scoring matrix is used to calculate the cumulative score. Extension of the word hits in each direction are halted when: the cumulative alignment score falls off by the quantity X from its
- 20 maximum achieved value; the cumulative score goes to zero or below, due to the accumulation of one or more negative-scoring residue alignments; or the end of either sequence is reached. The BLAST algorithm parameters W, T, and X determine the sensitivity and speed of the alignment. The BLASTN program (for nucleotide sequences) uses as defaults a wordlength (W) of 11, an expectation (E) of 10, M=5, N=4
- 25 and a comparison of both strands. For amino acid sequences, the BLASTP program uses as defaults a wordlength of 3, and expectations (E) of 10, and the BLOSUM62 scoring matrix (see Henikoff and Henikoff, Proc. Natl. Acad. Sci., USA 89:10915, 1989) alignments (B) of 50, expectation (E) of 10, M=5, N=4, and a comparison of both strands.
- 30 The BLAST algorithm also performs a statistical analysis of the similarity between two sequences (see, for example, Karlin and Altschul, Proc. Natl. Acad. Sci., USA 90:5873, 1993, which is incorporated herein by reference). One measure of

- similarity provided by BLAST algorithm is the smallest sum probability ( $P(N)$ ), which provides an indication of the probability by which a match between two nucleotide or amino acid sequences would occur by chance. For example, a nucleic acid is considered similar to a references sequence if the smallest sum probability in a comparison of the test nucleic acid to the reference nucleic acid is less than about 0.2, more preferably less than about 0.01, and most preferably less than about 0.001. Significantly, upon identifying polynucleotides that are substantially similar to those of SEQ ID NOS:1-5379, the identified polynucleotides can be used as query sequences in a BLAST search to identify polynucleotides and polypeptides substantially similar thereto.
- It should be noted that the nucleotide sequences set forth as SEQ ID NOS:1-2703 comprise coding sequences, whereas the nucleotide sequences set forth as SEQ ID NOS:2704-5379 comprise regulatory sequences. In addition, the coding sequences and regulatory sequences are related in that, for example, SEQ ID NO:1 is the coding sequence of a plant cold regulated gene having a 5' upstream (regulatory) sequence set forth as SEQ ID NO:2704 (see Table 2). Similarly, SEQ ID NO:2705 comprises a regulatory region of SEQ ID NO:2, SEQ ID NO:2706 comprises a regulatory region of SEQ ID NO:3, and so forth as shown in Table 2. As such, reference herein, for example, to a "polynucleotide comprising SEQ ID NO:1" can, unless indicated otherwise, include at least SEQ ID NO:2704. In some cases, the entire coding region of a plant stress regulated gene or the 5' upstream sequence has not yet been determined (see, for example, SEQ ID NO:43 in Table 3, where "none" indicates that 5' upstream regulatory sequences have not yet been determined). However, the determination of a complete coding sequence where only a portion is known or of regulatory sequences where a portion of the coding sequence is known can be made using methods as disclosed herein or otherwise known in the art.

In one embodiment, protein and nucleic acid sequence homologies are evaluated using the Basic Local Alignment Search Tool ("BLAST"). In particular, five specific BLAST programs are used to perform the following task:

- (1) BLASTP and BLAST3 compare an amino acid query sequence against a protein sequence database;
- (2) BLASTN compares a nucleotide query sequence against a nucleotide sequence database;

(3) BLASTX compares the six-frame conceptual translation products of a query nucleotide sequence (both strands) against a protein sequence database;

(4) TBLASTN compares a query protein sequence against a nucleotide sequence database translated in all six reading frames (both strands); and

- 5 (5) TBLASTX compares the six-frame translations of a nucleotide query sequence against the six-frame translations of a nucleotide sequence database.

The BLAST programs identify homologous sequences by identifying similar segments, which are referred to herein as "high-scoring segment pairs," between a query amino or nucleic acid sequence and a test sequence which is preferably  
10 obtained from a protein or nucleic acid sequence database. High-scoring segment pairs are preferably identified (*i.e.*, aligned) by means of a scoring matrix, many of which are known in the art. Preferably, the scoring matrix used is the BLOSUM62 matrix (Gonnet et al., Science 256:1443-1445, 1992; Henikoff and Henikoff, Proteins 17:49-61, 1993, each of which is incorporated herein by reference). Less preferably,  
15 the PAM or PAM250 matrices may also be used (Schwartz and Dayhoff, eds., "Matrices for Detecting Distance Relationships: Atlas of Protein Sequence and Structure" (Washington, National Biomedical Research Foundation 1978)). BLAST programs are accessible through the U.S. National Library of Medicine, for example, on the world wide web at address (url) "ncbi.nlm.nih.gov".

- 20 The parameters used with the above algorithms may be adapted depending on the sequence length and degree of homology studied. In some embodiments, the parameters may be the default parameters used by the algorithms in the absence of instructions from the user.

The term "substantially similar" also is used in reference to a comparison of  
25 expression profiles of nucleotide sequences, wherein a determination that an expression profile characteristic of a stress response is substantially similar to the profile of nucleic acid molecules expressed in a plant cell being examined ("test plant") is indicative of exposure of the test plant cell to one or a combination of abiotic stress conditions. When used in reference to such a comparison of expression profiles, the  
30 term "substantially similar" means that the individual nucleotide sequences in the test plant cell profile are altered in the same manner as the corresponding nucleotide sequences in the expression profile characteristic of the stress response.

By way of example, where exposure to saline results in an increased expression of nucleotide sequences A, B and C, and a decreased expression of nucleotide sequences D and E, as indicated by the expression profile characteristic of a saline stress response, a determination that corresponding nucleotide sequences A, B and C in the test plant cell are increased and that nucleotides sequences D and E are decreased is indicative of exposure of the test plant cell to a saline stress condition. It should be recognized that, where, for example, only nucleotide sequences A, B, D and E are examined in the test plant cell, an increase in A and B and a decrease in D and E expression of the test plant cells is considered to be substantially similar to the expression profile characteristic of a saline stress condition and, therefore, is indicative of exposure of the plant cell to a saline stress condition. Similarly, where the levels of expression of the nucleotide sequences examined in a test plant are altered in the same manner, i.e., are increased or are decreased, as that observed in an expression profile characteristic of a particular stress response, the absolute levels of expression may vary, for example, two-fold, five-fold, ten-fold, or the like. Nevertheless, the expression profile of the test plant cell is considered to be substantially similar to the expression profile characteristic of the particular stress response and, therefore, indicative of exposure of the plant cell to the stress condition.

As disclosed herein, clusters of stress-regulated genes (and their products), some of which also have been described as having cellular functions such as enzymatic activity or roles as transcription factors, are involved in the response of plant cells to various abiotic stresses (see Tables 29-31; see, also, Tables 1 and 32). As such, the polynucleotide sequences comprising the genes in a cluster likely share common stress-regulated regulatory elements, including, for example, cold-regulated regulatory elements (SEQ ID NOS:2704-3955), salinity-regulated regulatory elements (SEQ ID NOS:4910-5107, and osmotic pressure-regulated regulatory elements (SEQ ID NOS:5108-5263), as well as regulatory elements that are responsive to a combination of stress conditions, but not to any of the individual stress conditions, alone (SEQ ID NOS:3956-4909 and 5263-5379). The identification of such clusters of genes thus provides a means to identify the stress-regulated regulatory elements that control the level of expression of these genes.

As used herein, the term "plant stress-regulated gene" means a polynucleotide sequence of a plant, the transcription of which is altered in response to exposure to a stress condition, and the regulatory elements linked to such a polynucleotide sequence and involved in the stress response, which can be induction or repression. In general, plant stress gene regulatory elements are contained within a sequence including approximately two kilobases upstream (5') of the transcription or translation start site and two kilobases downstream (3') of the transcription or translation termination site. In the absence of an abiotic stress condition, the stress-regulated gene can normally be unexpressed in the cells, can be expressed at a basal level, which is induced to a higher level in response to the stress condition, or can be expressed at a level that is reduced (decreased) in response to the stress condition. The coding region of a plant stress-regulated gene encodes a stress-regulated polypeptide, and also can be the basis for expression of a functional RNA molecule such as an antisense molecule or ribozyme. A stress-regulated polypeptide can have an adaptive effect on a plant, thereby allowing the plant to better tolerate stress conditions; or can have a maladaptive effect, thereby decreasing the ability of the plant to tolerate the stress conditions.

The present invention provides an isolated plant stress-regulated regulatory element, which regulates expression of an operatively linked nucleotide sequence in a plant in response a stress condition. As disclosed herein, a plant stress-regulated regulatory element can be isolated from a polynucleotide sequence of a plant stress-regulated gene comprising a nucleotide sequence as set forth in SEQ ID NOS:1-2703, for example any of SEQ ID NOS:2704-5379 (see Table 2). It is recognized that certain of the polynucleotides set forth as SEQ ID NOS:1-5379 previously have been described as being involved in a stress-regulated response in plants, including SEQ ID NOS:156, 229, 233, 558, 573, 606, 625, 635, 787, 813, 1263, 1386, 1391, 1405, 1445, 1484, 1589, 1609, 1634, 1726, 1866, 1918, and 1928 and, therefore, are not encompassed, in whole or in part, within the compositions of the invention, and are encompassed within only certain particular methods of the invention, for example, methods of making a transgenic plant that is resistant to two or more stress conditions, since, even where such a gene was known to be expressed in response to a single stress condition such as cold or saline (e.g., SEQ ID NO:1263), it was not known

prior to the present disclosure that any of these genes was responsive to a combination of stress conditions (for example, a combination of cold and osmotic stress for SEQ ID NOS:1726, 1866, 1918, and 1928; or a combination of cold, osmotic and saline stress for SEQ ID NOS:1263,1386, 1391, 1405, 1445, 1484, 1589, 1609, and 1634).

- 5       Methods for identifying and isolating the stress-regulated regulatory element from the disclosed polynucleotides, or genomic DNA clones corresponding thereto, are well known in the art. For example, methods of making deletion constructs or linker-scanner constructs can be used to identify nucleotide sequences that are responsive to a stress condition. Generally, such constructs include a reporter gene
- 10       operatively linked to the sequence to be examined for regulatory activity. By performing such assays, a plant stress-regulated regulatory element can be defined within a sequence of about 500 nucleotides or fewer, generally at least about 200 nucleotides or fewer, particularly about 50 to 100 nucleotides, and more particularly at least about 20 nucleotides or fewer. Preferably the minimal (core)
- 15       sequence required for regulating a stress response of a plant is identified.

- The nucleotide sequences of the genes of a cluster also can be examined using a homology search engine such as described herein to identify sequences of conserved identity, particularly in the nucleotide sequence upstream of the transcription start site. Since all of the genes in a cluster as disclosed are induced in response to a
- 20       particular stress condition or a particular combination of stress conditions, some or all of the nucleotide sequences can share conserved stress-regulated regulatory elements. By performing such a homology search, putative stress-regulated regulatory elements can be identified. The ability of such identified sequences to function as a plant stress-regulated regulatory element can be confirmed, for example, by operatively
- 25       linking the sequence to a reporter gene and assaying the construct for responsiveness to a stress condition.

- As used herein, the term "regulatory element" means a nucleotide sequence that, when operatively linked to a coding region of a gene, effects transcription of the coding region such that a ribonucleic acid (RNA) molecule is transcribed from the
- 30       coding region. A regulatory element generally can increase or decrease the amount of transcription of a nucleotide sequence, for example, a coding sequence, operatively linked to the element with respect to the level at which the nucleotide sequence would

be transcribed absent the regulatory element. Regulatory elements are well known in the art and include promoters, enhancers, silencers, inactivated silencer intron sequences, 3'-untranslated or 5'-untranslated sequences of transcribed sequence, for example, a poly-A signal sequence, or other protein or RNA stabilizing elements, or other gene expression control elements known to regulate gene expression or the amount of expression of a gene product. A regulatory element can be isolated from a naturally occurring genomic DNA sequence or can be synthetic, for example, a synthetic promoter.

Regulatory elements can be constitutively expressed regulatory element, which maintain gene expression at a relative level of activity (basal level), or can be regulated regulatory elements. Constitutively expressed regulatory elements can be expressed in any cell type, or can be tissue specific, which are expressed only in particular cell types, phase specific, which are expressed only during particular developmental or growth stages of a plant cell, or the like. A regulatory element such as a tissue specific or phase specific regulatory element or an inducible regulatory element useful in constructing a recombinant polynucleotide or in a practicing a method of the invention can be a regulatory element that generally, in nature, is found in a plant genome. However, the regulatory element also can be from an organism other than a plant, including, for example, from a plant virus, an animal virus, or a cell from an animal or other multicellular organism.

A regulatory element useful for practicing method of the present is a promoter element. Useful promoters include, but are not limited to, constitutive, inducible, temporally regulated, developmentally regulated, spatially-regulated, chemically regulated, stress-responsive, tissue-specific, viral and synthetic promoters. Promoter sequences are known to be strong or weak. A strong promoter provides for a high level of gene expression, whereas a weak promoter provides for a very low level of gene expression. An inducible promoter is a promoter that provides for the turning on and off of gene expression in response to an exogenously added agent, or to an environmental or developmental stimulus. A bacterial promoter such as the  $P_{lac}$  promoter can be induced to varying levels of gene expression depending on the level of isothiopyl galactoside added to the transformed bacterial cells. An isolated promoter sequence that is a strong promoter for heterologous nucleic acid is

advantageous because it provides for a sufficient level of gene expression to allow for easy detection and selection of transformed cells and provides for a high level of gene expression when desired.

- Within a plant promoter region there are several domains that are necessary for full function of the promoter. The first of these domains lies immediately upstream of the structural gene and forms the "core promoter region" containing consensus sequences, normally 70 base pairs immediately upstream of the gene. The core promoter region contains the characteristic CAAT and TATA boxes plus surrounding sequences, and represents a transcription initiation sequence that defines the transcription start point for the structural gene.

- The presence of the core promoter region defines a sequence as being a promoter: if the region is absent, the promoter is non-functional. The core promoter region, however, is insufficient to provide full promoter activity. A series of regulatory sequences upstream of the core constitute the remainder of the promoter. These regulatory sequences determine expression level, the spatial and temporal pattern of expression and, for an important subset of promoters, expression under inductive conditions (regulation by external factors such as light, temperature, chemicals, hormones).

- To define a minimal promoter region, a DNA segment representing the promoter region is removed from the 5' region of the gene of interest and operably linked to the coding sequence of a marker (reporter) gene by recombinant DNA techniques well known to the art. The reporter gene is operably linked downstream of the promoter, so that transcripts initiating at the promoter proceed through the reporter gene. Reporter genes generally encode proteins which are easily measured, including, but not limited to, chloramphenicol acetyl transferase (CAT), beta-glucuronidase (GUS), green fluorescent protein (GFP),  $\beta$ -galactosidase ( $\beta$ -GAL), and luciferase.

- The construct containing the reporter gene under the control of the promoter is then introduced into an appropriate cell type by transfection techniques well known to the art. To assay for the reporter protein, cell lysates are prepared and appropriate assays, which are well known in the art, for the reporter protein are performed. For example, if CAT were the reporter gene of choice, the lysates from cells transfected with constructs containing CAT under the control of a promoter under study are



- mixed with isotopically labeled chloramphenicol and acetyl-coenzyme A (acetyl-CoA). The CAT enzyme transfers the acetyl group from acetyl-CoA to the 2-position or 3-position of chloramphenicol. The reaction is monitored by thin layer chromatography, which separates acetylated chloramphenicol from unreacted material. The reaction products are then visualized by autoradiography.

- The level of enzyme activity corresponds to the amount of enzyme that was made, which in turn reveals the level of expression from the promoter of interest. This level of expression can be compared to other promoters to determine the relative strength of the promoter under study. In order to be sure that the level of expression is determined by the promoter, rather than by the stability of the mRNA, the level of the reporter mRNA can be measured directly, for example, by northern blot analysis. Once activity is detected, mutational and/or deletional analyses may be employed to determine the minimal region and/or sequences required to initiate transcription. Thus, sequences can be deleted at the 5' end of the promoter region and/or at the 3' end of the promoter region, and nucleotide substitutions introduced. These constructs are then introduced to cells and their activity determined.

- The choice of promoter will vary depending on the temporal and spatial requirements for expression, and also depending on the target species. In some cases, expression in multiple tissues is desirable. While in others, tissue-specific, e.g., leaf-specific, seed-specific, petal-specific, anther-specific, or pith-specific, expression is desirable. Although many promoters from dicotyledons have been shown to be operational in monocotyledons and *vice versa*, ideally dicotyledonous promoters are selected for expression in dicotyledons, and monocotyledonous promoters for expression in monocotyledons. There is, however, no restriction to the origin or source of a selected promoter. It is sufficient that the promoters are operational in driving the expression of a desired nucleotide sequence in the particular cell.

- A range of naturally-occurring promoters are known to be operative in plants and have been used to drive the expression of heterologous (both foreign and endogenous) genes and nucleotide sequences in plants; for example, the constitutive 35S cauliflower mosaic virus (CaMV) promoter, the ripening-enhanced tomato polygalacturonase promoter (Bird et al., 1988), the E8 promoter (Dickman and Fischer, 1988) and the fruit specific 2A1 promoter (Pear et al., 1989). Many other

promoters, e.g., U2 and U5 snRNA promoters from maize, the promoter from alcohol dehydrogenase, the Z4 promoter from a gene encoding the Z4 22 kD zein protein, the Z10 promoter from a gene encoding a 10 kD zein protein, a Z27 promoter from a gene encoding a 27 kD zein protein, the A20 promoter from the gene encoding a 19 kD zein protein, inducible promoters, such as the light inducible promoter derived from the pea *rbcs* gene and the actin promoter from rice, e.g., the actin 2 promoter (WO 00/70067); seed specific promoters, such as the phaseolin promoter from beans, may also be used. The nucleotide sequences of the stress-regulated genes of this invention can also be expressed under the regulation of promoters that are chemically regulated. This enables the nucleic acid sequence or encoded polypeptide to be synthesized only when the crop plants are treated with the inducing chemicals. Chemical induction of gene expression is detailed in EP 0 332 104 and U.S. Pat. 5,614,395.

In some instances it may be desirable to link a constitutive promoter to a polynucleotide comprising a stress regulated gene of the invention. Examples of some constitutive promoters include the rice actin 1 (Wang et al., 1992; U.S. Pat. No. 5,641,876), CaMV 35S (Odell et al., 1985), CaMV 19S (Lawton et al., 1987), *nos*, *Adh*, sucrose synthase; and the ubiquitin promoters.

In other situations it may be desirable to limit expression of stress-related sequences to specific tissues or stages of development. As used herein, the term "tissue specific or phase specific regulatory element" means a nucleotide sequence that effects transcription in only one or a few cell types, or only during one or a few stages of the life cycle of a plant, for example, only for a period of time during a particular stage of growth, development or differentiation. The terms "tissue specific" and "phase specific" are used together herein in referring to a regulatory element because a single regulatory element can have characteristics of both types of regulatory elements. For example, a regulatory element active only during a particular stage of plant development also can be expressed only in one or a few types of cells in the plant during the particular stage of development. As such, any attempt to classify such regulatory elements as tissue specific or as phase specific can be difficult. Accordingly, unless indicated otherwise, all regulatory elements having the

characteristic of a tissue specific regulatory element, or a phase specific regulatory element, or both are considered together for purposes of the present invention.

Examples of tissue specific promoters which have been described include the lectin (Vodkin, 1983; Lindstrom et al., 1990) corn alcohol dehydrogenase 1 (Vogel et al., 1989; Dennis et al., 1984), corn light harvesting complex (Simpson, 1986; Bansal et al., 1992), corn heat shock protein (Odell et al., 1985), pea small subunit RuBP carboxylase (Poulsen et al., 1986), Ti plasmid mannopine synthase and Ti plasmid nopaline synthase (Langridge et al., 1989), petunia chalcone isomerase (vanTunen et al., 1988), bean glycine rich protein 1 (Keller et al., 1989), truncated CaMV 35s (Odell et al., 1985), potato patatin (Wenzler et al., 1989), root cell (Yamamoto et al., 1990), maize zein (Reina et al., 1990; Kriz et al., 1987; Wandelt et al., 1989; Langridge et al., 1983; Reina et al., 1990), globulin-1 (Belanger et al., 1991),  $\alpha$ -tubulin, cab (Sullivan et al., 1989), PEPCase (Hudspeth & Grula, 1989), R gene complex-associated promoters (Chandler et al., 1989), histone, and chalcone synthase promoters (Franken et al., 1991). Tissue specific enhancers are described by Fromm et al. (1989).

Several other tissue-specific regulated genes and/or promoters have been reported in plants, including genes encoding seed storage proteins such as napin, cruciferin, beta-conglycinin, and phaseolin, zein or oil body proteins such as oleosin, genes involved in fatty acid biosynthesis, including acyl carrier protein, stearyl-ACP desaturase, fatty acid desaturases (fad 2-1), and other genes expressed during embryonic development such as Bce4 (see, for example, EP 255378 and Kridl et al., 1991). Particularly useful for seed-specific expression is the pea vicilin promoter (Czako et al., 1992). (See also U.S. Pat. No. 5,625,136, which is incorporated herein by reference.) Other useful promoters for expression in mature leaves are those that are switched on at the onset of senescence, such as the SAG promoter from *Arabidopsis* (Gan et al., 1995).

A class of fruit-specific promoters expressed at or during anthesis through fruit development, at least until the beginning of ripening, is discussed in U.S. Pat. No. 4,943,674. cDNA clones that are preferentially expressed in cotton fiber have been isolated (John et al., 1992). cDNA clones from tomato displaying differential expression during fruit development have been isolated and characterized (Mansson et

al., 1985, Slater et al., 1985). The promoter for polygalacturonase gene is active in fruit ripening. The polygalacturonase gene is described in U.S. Pat. Nos. 4,535,060, 4,769,061, 4,801,590, and 5,107,065, each of which is incorporated herein by reference.

- 5 Other examples of tissue-specific promoters include those that direct expression in leaf cells following damage to the leaf (for example, from chewing insects), in tubers (for example, patatin gene promoter), and in fiber cells (an example of a developmentally-regulated fiber cell protein is E6 (John et al., 1992). The E6 gene is most active in fiber, although low levels of transcripts are found in leaf,
- 10 ovule and flower.
- Additional tissue specific or phase specific regulatory elements include, for example, the *AGL8/FRUITFULL* regulatory element, which is activated upon floral induction (Hempel et al., Development 124:3845-3853, 1997, which is incorporated herein by reference); root specific regulatory elements such as the regulatory elements
- 15 from the RCP1 gene and the LRP1 gene (Tsugeki and Fedoroff, Proc. Natl. Acad. USA 96:12941-12946, 1999; Smith and Fedoroff, Plant Cell 7:735-745, 1995, each of which is incorporated herein by reference); flower specific regulatory elements such as the regulatory elements from the *LEAFY* gene and the *APETELA1* gene (Blazquez et al., Development 124:3835-3844, 1997, which is incorporated herein by reference;
- 20 Hempel et al., *supra*, 1997); seed specific regulatory elements such as the regulatory element from the oleosin gene (Plant et al., Plant Mol. Biol. 25:193-205, 1994, which is incorporated herein by reference), and dehiscence zone specific regulatory element.
- Additional tissue specific or phase specific regulatory elements include the Zn13 promoter, which is a pollen specific promoter (Hamilton et al., Plant Mol. Biol.
- 25 13:211-218, 1992, which is incorporated herein by reference); the *UNUSUAL FLORAL ORGANS (UFO)* promoter, which is active in apical shoot meristem; the promoter active in shoot meristems (Atanassova et al., Plant J. 2:291, 1992, which is incorporated herein by reference), the *cdc2a* promoter and *cyc07* promoter (see, for example, Ito et al., Plant Mol. Biol. 24:863, 1994; Martinez et al., Proc. Natl. Acad. Sci., USA 89:7360, 1992; Medford et al., Plant Cell 3:359, 1991; Terada et al., Plant J.
- 30 3:241, 1993; Wissenbach et al., Plant J. 4:411, 1993, each of which is incorporated herein by reference); the promoter of the *APETELA3* gene, which is active in floral

meristems (Jack et al., *Cell* 76:703, 1994, which is incorporated herein by reference; Hempel et al., *supra*, 1997); a promoter of an agamous-like (AGL) family member, for example, AGL8, which is active in shoot meristem upon the transition to flowering (Hempel et al., *supra*, 1997); floral abscission zone promoters; L1-specific promoters; and the like.

The tissue-specificity of some "tissue-specific" promoters may not be absolute and may be tested by one skilled in the art using the diphtheria toxin sequence. One can also achieve tissue-specific expression with "leaky" expression by a combination of different tissue-specific promoters (Beals et al., 1997). Other tissue-specific promoters can be isolated by one skilled in the art (see U.S. 5,589,379). Several inducible promoters ("gene switches") have been reported, many of which are described in the review by Gatz (1996) and Gatz (1997). These include tetracycline repressor system, *Lac* repressor system, copper inducible systems, salicylate inducible systems (such as the PR1a system), glucocorticoid (Aoyama et al., 1997) and ecdysone inducible systems. Also included are the benzene sulphonamide (U.S. Pat. No. 5,364,780) and alcohol (WO 97/06269 and WO 97/06268) inducible systems and glutathione S-transferase promoters.

In some instances it might be desirable to inhibit expression of a native DNA sequence within a plant's tissues to achieve a desired phenotype. In this case, such inhibition might be accomplished with transformation of the plant to comprise a constitutive, tissue-independent promoter operably linked to an antisense nucleotide sequence, such that constitutive expression of the antisense sequence produces an RNA transcript that interferes with translation of the mRNA of the native DNA sequence.

Inducible regulatory elements also are useful for purposes of the present invention. As used herein, the term "inducible regulatory element" means a regulatory element that, when exposed to an inducing agent, effects an increased level of transcription of a nucleotide sequence to which it is operatively linked as compared to the level of transcription, if any, in the absence of an inducing agent. Inducible regulatory elements can be those that have no basal or constitutive activity and only effect transcription upon exposure to an inducing agent, or those that effect a basal or constitutive level of transcription, which is increased upon exposure to an inducing

- agent. Inducible regulatory elements that effect a basal or constitutive level of expression generally are useful in a method or composition of the invention where the induced level of transcription is substantially greater than the basal or constitutive level of expression, for example, at least about two-fold greater, or at least about five-fold greater. Particularly useful inducible regulatory elements do not have a basal or constitutive activity, or increase the level of transcription at least about ten-fold greater than a basal or constitutive level of transcription associated with the regulatory element.

- Inducible promoters that have been described include the ABA- and turgor-inducible promoters, the promoter of the auxin-binding protein gene (Schwob et al., 1993), the UDP glucose flavonoid glycosyl-transferase gene promoter (Ralston et al., 1988), the MPI proteinase inhibitor promoter (Cordero et al., 1994), and the glyceraldehyde-3-phosphate dehydrogenase gene promoter (Kohler et al., 1995; Quigley et al., 1989; Martinez et al., 1989).

- The term "inducing agent" is used to refer to a chemical, biological or physical agent or environmental condition that effects transcription from an inducible regulatory element. In response to exposure to an inducing agent, transcription from the inducible regulatory element generally is initiated *de novo* or is increased above a basal or constitutive level of expression. Such induction can be identified using the methods disclosed herein, including detecting an increased level of RNA transcribed from a nucleotide sequence operatively linked to the regulatory element, increased expression of a polypeptide encoded by the nucleotide sequence, or a phenotype conferred by expression of the encoded polypeptide.

- An inducing agent useful in a method of the invention is selected based on the particular inducible regulatory element. For example, the inducible regulatory element can be a metallothionein regulatory element, a copper inducible regulatory element or a tetracycline inducible regulatory element, the transcription from which can be effected in response to metal ions, copper or tetracycline, respectively (Furst et al., Cell 55:705-717, 1988; Mett et al., Proc. Natl. Acad. Sci., USA 90:4567-4571, 1993; Gatz et al., Plant J. 2:397-404, 1992; Roder et al., Mol. Gen. Genet. 243:32-38, 1994, each of which is incorporated herein by reference). The inducible regulatory element also can be an ecdysone regulatory element or a glucocorticoid regulatory

- element, the transcription from which can be effected in response to ecdysone or other steroid (Christopherson et al., Proc. Natl. Acad. Sci., USA 89:6314-6318, 1992; Schena et al., Proc. Natl. Acad. Sci., USA 88:10421-10425, 1991, each of which is incorporated herein by reference). In addition, the regulatory element can be a cold responsive regulatory element or a heat shock regulatory element, the transcription of which can be effected in response to exposure to cold or heat, respectively (Takahashi et al., Plant Physiol. 99:383-390, 1992, which is incorporated herein by reference). Additional regulatory elements useful in the methods or compositions of the invention include, for example, the spinach nitrite reductase gene regulatory element (Back et al., Plant Mol. Biol. 17:9, 1991, which is incorporated herein by reference); a light inducible regulatory element (Feinbaum et al., Mol. Gen. Genet. 226:449, 1991; Lam and Chua, Science 248:471, 1990, each of which is incorporated herein by reference), a plant hormone inducible regulatory element (Yamaguchi-Shinozaki et al., Plant Mol. Biol. 15:905, 1990; Kares et al., Plant Mol. Biol. 15:225, 1990, each of which is incorporated herein by reference), and the like.

- An inducible regulatory element also can be a plant stress-regulated regulatory element of the invention. In addition to the known stress conditions that specifically induce or repress expression from such elements, the present invention provides methods of identifying agents that mimic a stress condition. Accordingly, such stress mimics are considered inducing or repressing agents with respect to a plant stress-regulated regulatory element. In addition, a recombinant polypeptide comprising a zinc finger domain, which is specific for the regulatory element, and an effector domain, particularly an activator, can be useful as an inducing agent for a plant stress-regulated regulatory element. Furthermore, such a recombinant polypeptide provides the advantage that the effector domain can be a repressor domain, thereby providing a repressing agent, which decreases expression from the regulatory element. In addition, use of such a method of modulating expression of an endogenous plant stress-regulated gene provides the advantage that the polynucleotide encoding the recombinant polypeptide can be introduced into cells of the plant, thus providing a transgenic plant that can be regulated coordinately with the endogenous plant stress-regulated gene upon exposure to a stress condition. A polynucleotide encoding such a

recombinant polypeptide can be operatively linked to and expressed from a constitutively active, inducible or tissue specific or phase specific regulatory element.

- In one embodiment, the promoter may be a gamma zein promoter, an oleosin ole16 promoter, a globulin I promoter, an actin I promoter, an actin cl promoter, a
- 5 sucrose synthetase promoter, an INOPS promoter, an EXM5 promoter, a globulin2 promoter, a b-32, ADPG-pyrophosphorylase promoter, an LtpI promoter, an Ltp2 promoter, an oleosin ole17 promoter, an oleosin ole18 promoter, an actin 2 promoter, a pollen-specific protein promoter, a pollen-specific pectate lyase promoter, an anther-specific protein promoter (Huffman), an anther-specific gene RTS2 promoter, a
  - 10 pollen- specific gene promoter, a tapetum-specific gene promoter, tapetum- specific gene RAB24 promoter, a anthranilate synthase alpha subunit promoter, an alpha zein promoter, an anthranilate synthase beta subunit promoter, a dihydrodipicolinate synthase promoter, a Thi I promoter, an alcohol dehydrogenase promoter, a cab binding protein promoter, an H3C4 promoter, a RUBISCO SS starch branching
  - 15 enzyme promoter, an ACCase promoter, an actin3 promoter, an actin7 promoter, a regulatory protein GF14-12 promoter, a ribosomal protein L9 promoter, a cellulose biosynthetic enzyme promoter, an S-adenosyl-L-homocysteine hydrolase promoter, a superoxide dismutase promoter, a C-kinase receptor promoter, a phosphoglycerate mutase promoter, a root-specific RCc3 mRNA promoter, a glucose-6 phosphate
  - 20 isomerase promoter, a pyrophosphate-fructose 6-phosphatelposphotransferase promoter, an ubiquitin promoter, a beta-ketoacyl-ACP synthase promoter, a 33 kDa photosystem 11 promoter, an oxygen evolving protein promoter, a 69 kDa vacuolar ATPase subunit promoter, a metallothionein-like protein promoter, a glyceraldehyde-3-phosphate dehydrogenase promoter, an ABA- and ripening- inducible-like protein
  - 25 promoter, a phenylalanine ammonia lyase promoter, an adenosine triphosphatase S-adenosyl-L-homocysteine hydrolase promoter, an  $\alpha$ - tubulin promoter, a cab promoter, a PEPCase promoter, an R gene promoter, a lectin promoter, a light harvesting complex promoter, a heat shock protein promoter, a chalcone synthase promoter, a zein promoter, a globulin-1 promoter, an ABA promoter, an auxin-
  - 30 binding protein promoter, a UDP glucose flavonoid glycosyl-transferase gene promoter, an NTI promoter, an actin promoter, an opaque 2 promoter, a b70 promoter, an oleosin promoter, a CaMV 35S promoter, a CaMV 19S promoter, a histone



- promoter, a turgor-inducible promoter, a pea small subunit RuBP carboxylase promoter, a Ti plasmid mannopine synthase promoter, Ti plasmid nopaline synthase promoter, a petunia chalcone isomerase promoter, a bean glycine rich protein I promoter, a CaMV 35S transcript promoter, a potato patatin promoter, or a S-E9 small subunit RuBP carboxylase promoter.

- In addition to promoters, a variety of 5N and 3N transcriptional regulatory sequences are also available for use in the present invention. Transcriptional terminators are responsible for the termination of transcription and correct mRNA polyadenylation. The 3'-untranslated regulatory DNA sequence preferably includes from about 50 to about 1,000, more preferably about 100 to about 1,000, nucleotide base pairs and contains plant transcriptional and translational termination sequences. Appropriate transcriptional terminators and those which are known to function in plants include the CaMV 35S terminator, the *tml* terminator, the nopaline synthase terminator, the pea *rbcs* E9 terminator, the terminator for the T7 transcript from the octopine synthase gene of *Agrobacterium tumefaciens*, and the 3N end of the protease inhibitor I or II genes from potato or tomato, although other 3N elements known to those of skill in the art can also be employed. Alternatively, one also could use a gamma coixin, oleosin 3 or other terminator from the genus *Coix*. Preferred 3' elements include those from the nopaline synthase gene of *Agrobacterium tumefaciens* (Bevan et al., 1983), the terminator for the T7 transcript from the octopine synthase gene of *Agrobacterium tumefaciens*, and the 3' end of the protease inhibitor I or II genes from potato or tomato.

- As the DNA sequence between the transcription initiation site and the start of the coding sequence, i.e., the untranslated leader sequence, can influence gene expression, one may also wish to employ a particular leader sequence. Preferred leader sequences are contemplated to include those that include sequences predicted to direct optimum expression of the attached sequence, i.e., to include a preferred consensus leader sequence that may increase or maintain mRNA stability and prevent inappropriate initiation of translation. The choice of such sequences will be known to those of skill in the art in light of the present disclosure. Sequences that are derived from genes that are highly expressed in plants will be most preferred.

- Other sequences that have been found to enhance gene expression in transgenic plants include intron sequences (e.g., from *Adh1*, *bronze1*, *actin1*, *actin 2* (WO 00/760067), or the sucrose synthase intron) and viral leader sequences (e.g., from TMV, MCMV and AMV). For example, a number of non-translated leader sequences derived from viruses are known to enhance expression. Specifically, leader sequences from tobacco mosaic virus (TMV), maize chlorotic mottle virus (MCMV), and alfalfa mosaic virus (AMV) have been shown to be effective in enhancing expression (e.g., Gallie et al., 1987; Skuzeski et al., 1990). Other leaders known in the art include but are not limited to picornavirus leaders, for example, EMCV leader (encephalomyocarditis virus 5' non-coding region; Elroy-Stein et al., 1989); potyvirus leaders, for example, TEV leader (tobacco etch virus); MDMV leader (maize dwarf mosaic virus); human immunoglobulin heavy chain binding protein (BiP) leader, (Macejak et al., 1991); untranslated leader from the coat protein mRNA of AMV (AMV RNA 4; Jobling et al., 1987), TMV (Gallie et al., 1989), and MCMV (Lommel et al., 1991; see also, della Cioppa et al., 1987).

- Regulatory elements such as *Adh* intron 1 (Callis et al., 1987), sucrose synthase intron (Vasil et al., 1989) or TMV omega element (Gallie et al., 1989), may further be included where desired. Examples of enhancers include elements from the CaMV 35S promoter, octopine synthase genes (Ellis et al., 1987), the rice actin I gene, the maize alcohol dehydrogenase gene (Callis et al., 1987), the maize shrunken I gene (Vasil et al., 1989), TMV Omega element (Gallie et al., 1989) and promoters from non-plant eukaryotes (e.g. yeast; Ma et al., 1988).

- Vectors for use in accordance with the present invention may be constructed to include the *ocs* enhancer element, which was first identified as a 16 bp palindromic enhancer from the octopine synthase (*ocs*) gene of *utililane* (Ellis et al., 1987), and is present in at least 10 other promoters (Bouchez et al., 1989). The use of an enhancer element, such as the *ocs* element and particularly multiple copies of the element, will act to increase the level of transcription from adjacent promoters when applied in the context of monocot transformation.

- The methods of the invention provide genetically modified plant cells, which can contain, for example, a coding region, or peptide portion thereof, of a plant stress-regulated gene operatively linked to a heterologous inducible regulatory element; or a

plant stress-regulated regulatory element operatively linked to a heterologous nucleotide sequence encoding a polypeptide of interest. In such a plant, the expression from the inducible regulatory element can be effected by exposing the plant cells to an inducing agent in any of numerous ways depending, for example, on the inducible regulatory element and the inducing agent. For example, where the inducible regulatory element is a cold responsive regulatory element present in the cells of a transgenic plant, the plant can be exposed to cold conditions, which can be produced artificially, for example, by placing the plant in a thermostatically controlled room, or naturally, for example, by planting the plant in an environment characterized, at least in part, by attaining temperatures sufficient to induce transcription from the promoter but not so cold as to kill the plants. By examining the phenotype of such transgenic plants, those plants that ectopically express a gene product that confers increased resistance of the plant to cold can be identified. Similarly, a transgenic plant containing a metallothionein promoter can be exposed to metal ions such as cadmium or copper by watering the plants with a solution containing the inducing metal ions, or can be planted in soil that is contaminated with a level of such metal ions that is toxic to most plants. The phenotype of surviving plants can be observed, those expressing desirable traits can be selected.

As used herein, the term "phenotype" refers to a physically detectable characteristic. A phenotype can be identified visually by inspecting the physical appearance of a plant following exposure, for example, to increased osmotic conditions; can be identified using an assay to detecting a product produced due to expression of reporter gene, for example, an RNA molecule, a polypeptide such as an enzyme, or other detectable signal such as disclosed herein; or by using any appropriate tool useful for identifying a phenotype of a plant, for example, a microscope, a fluorescence activated cell sorter, or the like.

A transgenic plant containing an inducible regulatory element such as a steroid inducible regulatory element can be exposed to a steroid by watering the plants with a solution containing the steroid. The use of an inducible regulatory element that is induced upon exposure to a chemical or biological inducing agent that can be placed in solution or suspension in an aqueous medium can be particularly useful because the inducing agent can be applied conveniently to a relatively large crop of transgenic

- plants containing the inducible regulatory element, for example, through a watering system or by spraying the inducing agent over the field. As such, inducible regulatory elements that are responsive to an environmental inducing agent, for example, cold; heat; metal ions or other potentially toxic agents such as pesticides, which can
- 15 contaminate a soil; or the like; or inducible regulatory elements that are regulated by inducing agents that conveniently can be applied to plants, can be particularly useful in a method or composition of the invention, and allow the identification and selection of plants that express desirable traits and survive and grow in environments that otherwise would not support growth of the plants.
- 10 As disclosed herein, the present invention provides plant stress-regulated regulatory elements, which are identified based on the expression of clusters of plant genes in response to stress. As used herein, the term "stress-regulated regulatory element of a plant" or "plant stress-regulated regulatory element" means a nucleotide sequence of a plant genome that can respond to a stress such that expression of a gene
- 15 product encoded by a gene comprising the regulatory element (a stress-inducible gene) is increased above or decreased below the level of expression of the gene product in the absence of the stress condition. The regulatory element can be any gene regulatory element, including, for example, a promoter, an enhancer, a silencer, or the like. In one embodiment, the plant stress-regulated regulatory element is a
- 20 plant stress-regulated promoter.
- For purposes of modulating the responsiveness of a plant to a stress condition, it can be useful to introduce a modified plant stress-regulated regulatory element into a plant. Such a modified regulatory element can have any desirable characteristic, for example, it can be inducible to a greater level than the corresponding wild-type
- 25 promoter, or it can be inactivated such that, upon exposure to a stress, there is little or no induction of expression of a nucleotide sequence operatively linked to the mutant element. A plant stress-regulated regulatory element can be modified by incorporating random mutations using, for example, *in vitro* recombination or DNA shuffling (Stemmer et al., Nature 370: 389-391, 1994; U.S. Pat. No. 5,605,793, each
- 30 of which is incorporated herein by reference). Using such a method, millions of mutant copies of the polynucleotide, for example, stress-regulated regulatory element,

can be produced based on the original nucleotide sequence, and variants with improved properties, such as increased inducibility can be recovered.

- A mutation method such as DNA shuffling encompasses forming a mutagenized double-stranded polynucleotide from a template double-stranded polynucleotide, wherein the template double-stranded polynucleotide has been cleaved into double stranded random fragments of a desired size, and comprises the steps of adding to the resultant population of double-stranded random fragments one or more single or double stranded oligonucleotides, wherein the oligonucleotides comprise an area of identity and an area of heterology to the double stranded template polynucleotide; denaturing the resultant mixture of double stranded random fragments and oligonucleotides into single stranded fragments; incubating the resultant population of single stranded fragments with a polymerase under conditions that result in the annealing of the single stranded fragments at the areas of identity to form pairs of annealed fragments, the areas of identity being sufficient for one member of a pair to prime replication of the other, thereby forming a mutagenized double-stranded polynucleotide; and repeating the second and third steps for at least two further cycles, wherein the resultant mixture in the second step of a further cycle includes the mutagenized double-stranded polynucleotide from the third step of the previous cycle, and the further cycle forms a further mutagenized double-stranded polynucleotide.
- Preferably, the concentration of a single species of double stranded random fragment in the population of double stranded random fragments is less than 1% by weight of the total DNA. In addition, the template double stranded polynucleotide can comprise at least about 100 species of polynucleotides. The size of the double stranded random fragments can be from about 5 base pairs to 5 kilobase pairs. In a further embodiment, the fourth step of the method comprises repeating the second and the third steps for at least 10 cycles.

- A plant stress-regulated regulatory element of the invention is useful for expressing a nucleotide sequence operatively linked to the element in a cell, particularly a plant cell. As used herein, the term "expression" refers to the transcription and/or translation of an endogenous gene or a transgene in plants. In the case of an antisense molecule, for example, the term "expression" refers to the transcription of the polynucleotide encoding the antisense molecule.

- As used herein, the term "operatively linked," when used in reference to a plant stress-regulated regulatory element, means that the regulatory element is positioned with respect to a second nucleotide sequence such that the regulatory element effects transcription or transcription and translation of the nucleotide
- 5 sequence in substantially the same manner, but not necessarily to the same extent, as it does when the regulatory element is present in its natural position in a genome. Transcriptional promoters, for example, generally act in a position and orientation dependent manner and usually are positioned at or within about five nucleotides to about fifty nucleotides 5' (upstream) of the start site of transcription of a gene in
- 10 nature. In comparison, enhancers and silencers can act in a relatively position or orientation independent manner and, therefore, can be positioned several hundred or thousand nucleotides upstream or downstream from a transcription start site, or in an intron within the coding region of a gene, yet still be operatively linked to a coding region so as to effect transcription.
- 15 The second nucleotide sequence, i.e., the sequence operatively linked to the plant stress-regulated regulatory element, can be any nucleotide sequence, including, for example, a coding region of a gene or cDNA; a sequence encoding an antisense molecule, an RNAi molecule, ribozyme, triplexing agent (see, for example, Frank-Kamcnetskii and Mirkin, Ann. Rev. Biochem. 64:65-95, 1995), or the like; or a
- 20 sequence that, when transcribed, can be detected in the cell using, for example, by hybridization or amplification, or when translated produces a detectable signal. The term "coding region" is used broadly herein to include a nucleotide sequence of a genomic DNA or a cDNA molecule comprising all or part of a coding region of the coding strand. A coding region can be transcribed from an operatively linked
- 25 regulatory element, and can be translated into a full length polypeptide or a peptide portion of a polypeptide. It should be recognized that, in a nucleotide sequence comprising a coding region, not all of the nucleotides in the sequence need necessarily encode the polypeptide and, particularly, that a gene transcript can contain one or more introns, which do not encode an amino acid sequence of a polypeptide but,
- 30 nevertheless, are part of the coding region, particularly the coding strand, of the gene.
- The present invention also relates to a recombinant polynucleotide, which contains a polynucleotide portion of a plant stress-regulated gene operatively linked to

a heterologous nucleotide sequence. As used herein, the term "polynucleotide portion of plant stress-regulated sequence" means a contiguous nucleotide sequence of the plant stress-regulated gene that provides a function. The portion can be any portion of the sequence, particularly a coding sequence, or a sequence encoding a peptide

- 5 portion of the stress-regulated polypeptide; the stress-regulated regulatory element; a sequence useful as an antisense molecule or triplexing agent; or a sequence useful for disrupting (knocking-out) an endogenous plant stress-regulated gene.

- A heterologous nucleotide sequence is a nucleotide sequence that is not normally part of the plant stress-regulated gene from which the polynucleotide portion of the plant stress-regulated gene-component of the recombinant polynucleotide is obtained; or, if it is a part of the plant stress-regulated gene from which the polynucleotide portion is obtained, it is an orientation other than it would normally be in, for example, is an antisense sequence, or comprises at least partially discontinuous as compared to the genomic structure, for example, a single exon operatively linked to the regulatory element. In general, where the polynucleotide portion of the plant stress-regulated gene comprises the coding sequence in a recombinant polynucleotide of the invention, the heterologous nucleotide sequence will function as a regulatory element. The regulatory element can be any heterologous regulatory element, including, for example, a constitutively active regulatory element, an inducible regulatory element, or a tissue specific or phase specific regulatory element, as disclosed above. Conversely, where the polynucleotide portion of the plant stress-regulated polynucleotide comprises the stress-regulated regulatory element of a recombinant polynucleotide of the invention, the heterologous nucleotide sequence generally will be a nucleotide sequence that can be transcribed and, if desired, translated. Where the heterologous nucleotide sequence is expressed from a plant stress-regulated regulatory element, it generally confers a desirable phenotype to a plant cell containing the recombinant polynucleotide, or provides a means to identify a plant cell containing the recombinant polynucleotide. It should be recognized that a "desirable" phenotype can be one that decreases the ability of a plant cell to compete where the plant cell, or a plant containing the cell, is an undesired plant cell. Thus, a heterologous nucleotide sequence can allow a plant to grow, for example, under conditions in which it would not normally be able to grow.

A heterologous nucleotide sequence can be, or encode, a selectable marker.

As used herein, the term "selectable marker" is used herein to refer to a molecule that, when present or expressed in a plant cell, provides a means to identify a plant cell containing the marker. As such, a selectable marker can provide a means for

- 5 screening a population of plants, or plant cells, to identify those having the marker. A selectable marker also can confer a selective advantage to the plant cell, or a plant containing the cell. The selective advantage can be, for example, the ability to grow in the presence of a negative selective agent such as an antibiotic or herbicide, compared to the growth of plant cells that do not contain the selectable marker. The  
10 selective advantage also can be due, for example, to an enhanced or novel capacity to utilize an added compound as a nutrient, growth factor or energy source. A selectable advantage can be conferred, for example, by a single polynucleotide, or its expression product, or to a combination of polynucleotides whose expression in a plant cell gives the cell with a positive selective advantage, a negative selective advantage, or both.

- 15 Examples of selectable markers include those that confer antimetabolite resistance, for example, dihydrofolate reductase, which confers resistance to methotrexate (Reiss, Plant Physiol. (Life Sci. Adv.) 13:143-149, 1994); neomycin phosphotransferase, which confers resistance to the aminoglycosides neomycin, kanamycin and paromycin (Herrera-Estrella, EMBO J. 2:987-995, 1983) and hygromycin  
20 which confers resistance to hygromycin (Marsh, Gene 32:481-485, 1984), trpB, which allows cells to utilize indole in place of tryptophan; hisD, which allows cells to utilize histinol in place of histidine (Hartman, Proc. Natl. Acad. Sci., USA 85:8047, 1988); mannose-6-phosphate isomerase which allows cells to utilize mannose (WO 94/20627); ornithine decarboxylase, which confers resistance to the ornithine  
25 decarboxylase inhibitor, 2-(difluoromethyl)-DL-ornithine (DFMO; McConlogue, 1987, In: Current Communications in Molecular Biology, Cold Spring Harbor Laboratory ed.); and deaminase from *Aspergillus terreus*, which confers resistance to Blasticidin S (Tamura, Biosci. Biotechnol. Biochem. 59:2336-2338, 1995). Additional selectable markers include those that confer herbicide resistance, for  
30 example, phosphinothricin acetyltransferase gene, which confers resistance to phosphinothricin (White et al., Nucl. Acids Res. 18:1062, 1990; Spencer et al., Theor. Appl. Genet. 79:625-631, 1990), a mutant EPSPV-synthase, which confers glyphosate



- resistance (Hinchee et al., Bio/Technology 91:915-922, 1998), a mutant acetolactate synthase, which confers imidazolinone or sulfonylurea resistance (Lee et al., EMBO J. 7:1241-1248, 1988), a mutant psbA, which confers resistance to atrazine (Smeda et al., Plant Physiol. 103:911-917, 1993), or a mutant protoporphyrinogen oxidase (see 5 U.S. Pat. No. 5,767,373), or other markers conferring resistance to an herbicide such as glufosinate. In addition, markers that facilitate identification of a plant cell containing the polynucleotide encoding the marker include, for example, luciferase (Giacomin, Plant Sci. 116:59-72, 1996; Scikantha, J. Bacteriol. 178:121, 1996), green fluorescent protein (Gerdes, FEBS Lett. 389:44-47, 1996) or  $\beta$ -glucuronidase 10 (Jefferson, EMBO J. 6:3901-3907, 1997), and numerous others as disclosed herein or otherwise known in the art. Such markers also can be used as reporter molecules.

- A heterologous nucleotide sequence can encode an antisense molecule, particularly an antisense molecule specific for a nucleotide sequence of a plant stress-regulated gene, for example, the gene from which the regulatory component of the 15 recombinant polynucleotide is derived. Such a recombinant polynucleotide can be useful for reducing the expression of a plant stress-regulated polypeptide in response to a stress condition because the antisense molecule, like the polypeptide, only will be induced upon exposure to the stress. A heterologous nucleotide sequence also can be, or can encode, a ribozyme or a triplexing agent. In addition to being useful as 20 heterologous nucleotide sequences, such molecules also can be used directly in a method of the invention, for example, to modulate the responsiveness of a plant cell to a stress condition. Thus, an antisense molecule, ribozyme, or triplexing agent can be contacted directly with a target cell and, upon uptake by the cell, can effect their antisense, ribozyme or triplexing activity; or can be encoded by a heterologous 25 nucleotide sequence that is expressed in a plant cell from a plant stress-regulated regulatory element, whereupon it can effect its activity.

- An antisense polynucleotide, ribozyme or triplexing agent is complementary to a target sequence, which can be a DNA or RNA sequence, for example, messenger RNA, and can be a coding sequence, a nucleotide sequence comprising an intron-exon 30 junction, a regulatory sequence such as a Shine-Delgamo-like sequence, or the like. The degree of complementarity is such that the polynucleotide, for example, an antisense polynucleotide, can interact specifically with the target sequence in a cell.

Depending on the total length of the antisense or other polynucleotide, one or a few mismatches with respect to the target sequence can be tolerated without losing the specificity of the polynucleotide for its target sequence. Thus, few if any mismatches would be tolerated in an antisense molecule consisting, for example, of twenty  
5 nucleotides, whereas several mismatches will not affect the hybridization efficiency of an antisense molecule that is complementary, for example, to the full length of a target mRNA encoding a cellular polypeptide. The number of mismatches that can be tolerated can be estimated, for example, using well known formulas for determining hybridization kinetics (see Sambrook et al., "Molecular Cloning; A Laboratory  
10 Manual" 2nd Edition (Cold Spring Harbor Laboratory Press, Cold Spring Harbor, NY; 1989)) or can be determined empirically using methods as disclosed herein or otherwise known in the art, particularly by determining that the presence of the antisense polynucleotide, ribozyme, or triplexing agent in a cell decreases the level of the target sequence or the expression of a polypeptide encoded by the target sequence  
15 in the cell.

A nucleotide sequence useful as an antisense molecule, a ribozyme or a triplexing agent can inhibit translation or cleave a polynucleotide encoded by plant stress-regulated gene, thereby modulating the responsiveness of a plant cell to a stress condition. An antisense molecule, for example, can bind to an mRNA to form a  
20 double stranded molecule that cannot be translated in a cell. Antisense oligonucleotides of at least about 15 to 25 nucleotides are preferred since they are easily synthesized and can hybridize specifically with a target sequence, although longer antisense molecules can be expressed from a recombinant polynucleotide introduced into the target cell. Specific nucleotide sequences useful as antisense  
25 molecules can be identified using well known methods, for example, gene walking methods (see, for example, Seimiya et al., J. Biol. Chem. 272:4631-4636 (1997), which is incorporated herein by reference). Where the antisense molecule is contacted directly with a target cell, it can be operatively associated with a chemically reactive group such as iron-linked EDTA, which cleaves a target RNA at the site of  
30 hybridization. A triplexing agent, in comparison, can stall transcription (Maher et al., Antisense Res. Devel. 1:227 (1991); Helenc, Anticancer Drug Design 6:569 (1991)).

A plant stress-regulated regulatory element can be included in an expression cassette. As used herein, the term "expression cassette" refers to a nucleotide sequence that can direct expression of an operatively linked polynucleotide. Thus, a plant stress-regulated regulatory element can constitute an expression cassette, or component thereof. An expression cassette is particularly useful for directing expression of a nucleotide sequence, which can be an endogenous nucleotide sequence or a heterologous nucleotide sequence, in a cell, particularly a plant cell. If desired, an expression cassette also can contain additional regulatory elements, for example, nucleotide sequences required for proper translation of a polynucleotide sequence into a polypeptide. In general, an expression cassette can be introduced into a plant cell such that the plant cell, a plant resulting from the plant cell, seeds obtained from such a plant, or plants produced from such seeds are resistant to a stress condition.

Additional regulatory sequences as disclosed above or other desirable sequences such as selectable markers or the like can be incorporated into an expression cassette containing a plant stress-regulated regulatory element (see, for example, WO 99/47552). Examples of suitable markers include dihydrofolate reductase (DHFR) or neomycin resistance for eukaryotic cells and tetracycline or ampicillin resistance for *E. coli*. Selection markers in plants include bleomycin, gentamycin, glyphosate, hygromycin, kanamycin, methotrexate, phleomycin, phosphinotricin, spectinomycin, streptomycin, sulfonamide and sulfonylureas resistance (see, for example, Maliga et al., *Methods in Plant Molecular Biology*, Cold Spring Harbor Laboratory Press, 1995, page 39). The selection marker can have its own promoter or its expression can be driven by the promoter operably linked to the sequence of interest. Additional sequences such as intron sequences (e.g. from *Adh1* or *bronzel*) or viral leader sequences (e.g. from TMV, MCMV and AIVIV), all of which can enhance expression, can be included in the cassette. In addition, where it is desirable to target expression of a nucleotide sequence operatively linked to the stress-regulated regulatory element, a sequence encoding a cellular localization motif can be included in the cassette, for example, such that an encoded transcript or translation product is translocated to and localizes in the cytosol, nucleus, a chloroplast, or another subcellular organelle. Examples of useful transit peptides and transit peptide

- sequences can be found in Von Heijne et al., Plant Mol. Biol. Rep. 9: 104, 1991; Clark et al., J. Biol. Chem. 264:17544, 1989; della Cioppa et al., Plant Physiol. 84:965, 1987; Romer et al., Biochem. Biophys. Res. Comm. 196:1414, 1993; Shah et al., Science 233:478, 1986; Archer et al., J. Bioenerg Biomemb. 22:789, 1990;
- 5 Scandalios, Prog. Clin. Biol. Res. 344:515, 1990; Weisbeck et al., J. Cell Sci. Suppl. 11:199, 1989; Bruce, Trends Cell Biol. 10:440, 2000. The present invention can utilize native or heterologous transit peptides. The encoding sequence for a transit peptide can include all or a portion of the encoding sequence for a particular transit peptide, and may also contain portions of the mature protein encoding sequence
- 10 associated with a particular transit peptide.

- A polynucleotide portion of a plant stress-regulated plant gene, or an expression cassette, can be introduced into a cell as a naked DNA molecule, can be incorporated in a matrix such as a liposome or a particle such as a viral particle, or can be incorporated into a vector. Such vectors can be cloning or expression vectors, but
- 15 other uses are within the scope of the present invention. A cloning vector is a self-replicating DNA molecule that serves to transfer a DNA segment into a host cell. The three most common types of cloning vectors are bacterial plasmids, phages, and other viruses. An expression vector is a cloning vector designed so that a coding sequence inserted at a particular site will be transcribed and translated into a protein.
- 20 Incorporation of the polynucleotide into a vector can facilitate manipulation of the polynucleotide, or introduction of the polynucleotide into a plant cell. A vector can be derived from a plasmid or a viral vector such as a T-DNA vector (Horsch et al., Science 227:1229-1231, 1985, which is incorporated herein by reference). If desired, the vector can comprise components of a plant transposable element, for example, a
- 25 *DS* transposon (Bancroft and Dean, Genetics 134:1221-1229, 1993, which is incorporated herein by reference) or an *Spm* transposon (Aarts et al., Mol. Gen. Genet. 247:555-564, 1995, which is incorporated herein by reference).

- In addition to containing the polynucleotide portion of a plant stress-regulated gene, a vector can contain various nucleotide sequences that facilitate, for example,
- 30 rescue of the vector from a transformed plant cell; passage of the vector in a host cell, which can be a plant, animal, bacterial, or insect host cell; or expression of an encoding nucleotide sequence in the vector, including all or a portion of a rescued

coding region. As such, the vector can contain any of a number of additional transcription and translation elements, including constitutive and inducible promoters, enhancers, and the like (see, for example, Bitter et al., Meth. Enzymol. 153:516-544, 1987). For example, a vector can contain elements useful for passage, growth or expression in a bacterial system, including a bacterial origin of replication; a promoter, which can be an inducible promoter; and the like. In comparison, a vector that can be passaged in a mammalian host cell system can have a promoter such as a metallothionein promoter, which has characteristics of both a constitutive promoter and an inducible promoter, or a viral promoter such as a retrovirus long terminal repeat, an adenovirus late promoter, or the like. A vector also can contain one or more restriction endonuclease recognition and cleavage sites, including, for example, a polylinker sequence, to facilitate rescue of a nucleotide sequence operably linked to the polynucleotide portion.

The present invention also relates to a method of using a polynucleotide portion of a plant stress-regulated gene to confer a selective advantage on a plant cell. Such a method can be performed by introducing, for example, a plant stress-regulated regulatory element into a plant cell, wherein, upon exposure of the plant cell to a stress condition to which the regulatory element is responsive, a nucleotide sequence operatively linked to the regulatory element is expressed, thereby conferring a selective advantage to plant cell. The operatively linked nucleotide sequence can be a heterologous nucleotide sequence, which can be operatively linked to the regulatory element prior to introduction of the regulatory sequence into the plant cell; or can be an endogenous nucleotide sequence into which the regulatory element was targeted by a method such as homologous recombination. The selective advantage conferred by the operatively linked nucleotide sequence can be such that the plant is better able to tolerate the stress condition; or can be any other selective advantage.

As used herein, the term "selective advantage" refers to the ability of a particular organism to better propagate, develop, grow, survive, or otherwise tolerate a condition as compared to a corresponding reference organism that does not contain a plant-stress regulated polynucleotide portion of the present invention. In one embodiment, a selective advantage is exemplified by the ability of a desired plant, plant cell, or the like, that contains an introduced plant stress-regulated regulatory

- element, to grow better than an undesired plant, plant cell, or the like, that does not contain the introduced regulatory element. For example, a recombinant polynucleotide comprising a plant stress-regulated regulatory element operatively linked to a heterologous nucleotide sequence encoding an enzyme that inactivates an herbicide can be introduced in a desired plant. Upon exposure of a mixed population of plants comprising the desired plants, which contain the recombinant polynucleotide, and one or more other populations of undesired plants, which lack the recombinant polynucleotide, to a stress condition that induces expression of the regulatory element and to the herbicide, the desired plants will have a greater likelihood of surviving exposure to the toxin and, therefore, a selective advantage over the undesired plants.

- In another embodiment, a selective advantage is exemplified by the ability of a desired plant, plant cell, or the like, to better propagate, develop, grow, survive, or otherwise tolerate a condition as compared to an undesired plant, plant cell, or the like, that contains an introduced plant stress-regulated regulatory element. For example, a recombinant polynucleotide comprising a plant stress-regulated regulatory element operatively linked to a plant cell toxin can be introduced into cells of an undesirable plant present in a mixed population of desired and undesired plants, for example, food crops and weeds, respectively, then the plants can be exposed to stress conditions that induce expression from the plant stress-regulated regulatory element, whereby expression of the plant cell toxin results in inhibition of growth or death of the undesired plants, thereby providing a selective advantage to the desired plants, which no longer have to compete with the undesired plants for nutrients, light, or the like. In another example, a plant stress-regulated regulatory element operatively linked to a plant cell toxin can be introduced into cells of plants used as a nurse crop. Nurse crops, also called cover or companion crops, are planted in combination with plants of interest to provide, among other things, shade and soil stability during establishment of the desired plants. Once the desired plants have become established, the presence of the nurse crop may no longer be desirable. Exposure to conditions inducing expression of the gene linked to the plant stress-regulated regulatory element allows elimination of the nurse crop. Alternatively nurse crops can be made less tolerate to abiotic stress by the inhibition of any of the stress-regulated sequences

disclosed herein. Inhibition can be accomplished by any of the method described herein. Upon exposure of the nurse crop to the stress, the decreased ability of the nurse crop to respond to the stress will result in elimination of the nurse crop, leaving only the desired plants.

- 5       The invention also provides a means of producing a transgenic plant, which comprises plant cells that exhibit altered responsiveness to a stress condition. As such, the present invention further provides a transgenic plant, or plant cells or tissues derived therefrom, which are genetically modified to respond to stress differently than a corresponding wild-type plant or plant not containing constructs of the present
- 10       invention would respond. As used herein, the term "responsiveness to a stress condition" refers to the ability of a plant to express a plant stress-regulated gene upon exposure to the stress condition. A transgenic plant cell contains a polypeptide portion of a plant stress-regulated gene, or a mutant form thereof, for example, a knock-out mutant. A knock-out mutant form of a plant stress-regulated gene can
- 15       contain, for example, a mutation such that a STOP codon is introduced into the reading frame of the translated portion of the gene such that expression of a functional stress-regulated polypeptide is prevented; or a mutation in the stress-regulated regulatory element such that inducibility of the element in response to a stress condition is inhibited. Such transgenic plants of the invention can display any of
- 20       various idiotypic modifications in response to an abiotic stress, including altered tolerance to the stress condition, as well as increased or decreased plant growth, root growth, yield, or the like, as compared to the corresponding wild-type plant.

- The term "plant" is used broadly herein to include any plant at any stage of development, or to part of a plant, including a plant cutting, a plant cell, a plant cell
- 25       culture, a plant organ, a plant seed, and a plantlet. A plant cell is the structural and physiological unit of the plant, comprising a protoplast and a cell wall. A plant cell can be in the form of an isolated single cell or a cultured cell, or can be part of higher organized unit, for example, a plant tissue, plant organ, or plant. Thus, a plant cell can be a protoplast, a gamete producing cell, or a cell or collection of cells that can
- 30       regenerate into a whole plant. As such, a seed, which comprises multiple plant cells and is capable of regenerating into a whole plant, is considered plant cell for purposes of this disclosure. A plant tissue or plant organ can be a seed, protoplast, callus, or

any other groups of plant cells that is organized into a structural or functional unit. Particularly useful parts of a plant include harvestable parts and parts useful for propagation of progeny plants. A harvestable part of a plant can be any useful part of a plant, for example, flowers, pollen, seedlings, tubers, leaves, stems, fruit, seeds, roots, and the like. A part of a plant useful for propagation includes, for example, seeds, fruits, cuttings, seedlings, tubers, rootstocks, and the like.

A transgenic plant can be regenerated from a transformed plant cell. As used herein, the term "regenerate" means growing a whole plant from a plant cell; a group of plant cells; a protoplast; a seed; or a piece of a plant such as a callus or tissue.

- 10 Regeneration from protoplasts varies from species to species of plants. For example, a suspension of protoplasts can be made and, in certain species, embryo formation can be induced from the protoplast suspension, to the stage of ripening and germination. The culture media generally contains various components necessary for growth and regeneration, including, for example, hormones such as auxins and cytokinins; and
- 15 amino acids such as glutamic acid and proline, depending on the particular plant species. Efficient regeneration will depend, in part, on the medium, the genotype, and the history of the culture. If these variables are controlled, however, regeneration is reproducible.

Regeneration can occur from plant callus, explants, organs or plant parts.

- 20 Transformation can be performed in the context of organ or plant part regeneration. (see Meth. Enzymol. Vol. 118; Klee et al. Ann. Rev. Plant Physiol. 38:467, 1987, which is incorporated herein by reference). Utilizing the leaf disk-transformation-regeneration method, for example, disks are cultured on selective media, followed by shoot formation in about two to four weeks (see Horsch et al., *supra*, 1985). Shoots
- 25 that develop are excised from calli and transplanted to appropriate root-inducing selective medium. Rooted plantlets are transplanted to soil as soon as possible after roots appear. The plantlets can be repotted as required, until reaching maturity.

In vegetatively propagated crops, the mature transgenic plants are propagated utilizing cuttings or tissue culture techniques to produce multiple identical plants.

- 30 Selection of desirable transgenotes is made and new varieties are obtained and propagated vegetatively for commercial use. In seed propagated crops, the mature transgenic plants can be self crossed to produce a homozygous inbred plant. The



resulting inbred plant produces seeds that contain the introduced plant stress-induced regulatory element, and can be grown to produce plants that express a polynucleotide or polypeptide in response to a stress condition that induces expression from the regulatory element. As such, the invention further provides seeds produced by a transgenic plant obtained by a method of the invention.

In addition, transgenic plants comprising different recombinant sequences can be crossbred, thereby providing a means to obtain transgenic plants containing two or more different transgenes, each of which contributes a desirable characteristic to the plant. Methods for breeding plants and selecting for crossbred plants having desirable characteristics or other characteristics of interest are well known in the art.

A method of the invention can be performed by introducing a polynucleotide portion of a plant stress-regulated gene into the plant. As used herein, the term "introducing" means transferring a polynucleotide into a plant cell. A polynucleotide can be introduced into a cell by a variety of methods well known to those of ordinary skill in the art. For example, the polynucleotide can be introduced into a plant cell using a direct gene transfer method such as electroporation or microprojectile mediated transformation, or using *Agrobacterium* mediated transformation. Non-limiting examples of methods for the introduction of polynucleotides into plants are provided in greater detail herein. As used herein, the term "transformed" refers to a plant cell containing an exogenously introduced polynucleotide portion of a plant stress-regulated gene that is or can be rendered active in a plant cell, or to a plant comprising a plant cell containing such a polynucleotide.

It should be recognized that one or more polynucleotides, which are the same or different can be introduced into a plant, thereby providing a means to obtain a genetically modified plant containing multiple copies of a single transgenic sequence, or containing two or more different transgenic sequences, either or both of which can be present in multiple copies. Such transgenic plants can be produced, for example, by simply selecting plants having multiple copies of a single type of transgenic sequence; by cotransfecting plant cells with two or more populations of different transgenic sequences and identifying those containing the two or more different transgenic sequences; or by crossbreeding transgenic plants, each of which contains

one or more desired transgenic sequences, and identifying those progeny having the desired sequences.

- Methods for introducing a polynucleotide into a plant cell to obtain a transformed plant also include direct gene transfer (see European Patent A 164 575),
- 5 injection, electroporation, biolistic methods such as particle bombardment, pollen-mediated transformation, plant RNA virus-mediated transformation, liposome-mediated transformation, transformation using wounded or enzyme-degraded immature embryos, or wounded or enzyme-degraded embryogenic callus, and the like. Transformation methods using *Agrobacterium tumefaciens* tumor inducing (Ti)
- 10 plasmids or root-inducing (Ri) plasmids, or plant virus vectors are well known in the art (see, for example, WO 99/47552; Weissbach & Weissbach, "Methods for Plant Molecular Biology" (Academic Press, NY 1988), section VIII, pages 421-463; Grierson and Corey, "Plant Molecular Biology" 2d Ed. (Blackie, London 1988), Chapters 7-9, each of which is incorporated herein by reference; Horsch et al., *supra*,
- 15 1985). The wild-type form of *Agrobacterium*, for example, contains a Ti plasmid, which directs production of tumorigenic crown gall growth on host plants. Transfer of the tumor inducing T-DNA region of the Ti plasmid to a plant genome requires the Ti plasmid-encoded virulence genes as well as T-DNA borders, which are a set of direct DNA repeats that delineate the region to be transferred. An *Agrobacterium*
- 20 based vector is a modified form of a Ti plasmid, in which the tumor inducing functions are replaced by a nucleotide sequence of interest that is to be introduced into the plant host.

- Methods of using *Agrobacterium* mediated transformation include cocultivation of *Agrobacterium* with cultured isolated protoplasts; transformation of
- 25 plant cells or tissues with *Agrobacterium*; and transformation of seeds, apices or meristems with *Agrobacterium*. In addition, *in planta* transformation by *Agrobacterium* can be performed using vacuum infiltration of a suspension of *Agrobacterium* cells (Bechtold et al., *C.R. Acad. Sci. Paris* 316:1194, 1993, which is incorporated herein by reference).

- 30 *Agrobacterium* mediated transformation can employ cointegrate vectors or binary vector systems, in which the components of the Ti plasmid are divided between a helper vector, which resides permanently in the *Agrobacterium* host and carries the

- virulence genes, and a shuttle vector, which contains the gene of interest bounded by T-DNA sequences. Binary vectors are well known in the art (see, for example, De Framond, BioTechnology 1:262, 1983; Hoekema et al., Nature 303:179, 1983, each of which is incorporated herein by reference) and are commercially available
- 5 (Clontech; Palo Alto CA). For transformation, *Agrobacterium* can be cocultured, for example, with plant cells or wounded tissue such as leaf tissue, root explants, hypocotyledons, stem pieces or tubers (see, for example, Glick and Thompson, "Methods in Plant Molecular Biology and Biotechnology" (Boca Raton FL, CRC Press 1993), which is incorporated herein by reference). Wounded cells within the
- 10 plant tissue that have been infected by *Agrobacterium* can develop organs *de novo* when cultured under the appropriate conditions; the resulting transgenic shoots eventually give rise to transgenic plants, which contain an exogenous polynucleotide portion of a plant stress-regulated gene.
- Agrobacterium* mediated transformation has been used to produce a variety of
- 15 transgenic plants, including, for example, transgenic cruciferous plants such as *Arabidopsis*, mustard, rapeseed and flax; transgenic leguminous plants such as alfalfa, pea, soybean, trefoil and white clover; and transgenic solanaceous plants such as eggplant, petunia, potato, tobacco and tomato (see, for example, Wang et al., "Transformation of Plants and Soil Microorganisms" (Cambridge, University Press
- 20 1995), which is incorporated herein by reference). In addition, *Agrobacterium* mediated transformation can be used to introduce an exogenous polynucleotide sequence, for example, a plant stress-regulated regulatory element into apple, aspen, belladonna, black currant, carrot, celery, cotton, cucumber, grape, horseradish, lettuce, morning glory, muskmelon, neem, poplar, strawberry, sugar beet, sunflower, walnut,
- 25 asparagus, rice and other plants (see, for example, Glick and Thompson, *supra*, 1993; Hiei et al., Plant J. 6:271-282, 1994; Shimamoto, Science 270:1772-1773, 1995).
- Suitable strains of *Agrobacterium tumefaciens* and vectors as well as transformation of *Agrobacteria* and appropriate growth and selection media are well known in the art (GV3101, pMK90RK), Koncz, Mol. Gen. Genet. 204:383-396, 1986;
- 30 (C58C1, pGV3850kan), Deblaere, Nucl. Acid Res. 13:4777, 1985; Bevan, Nucl. Acid Res. 12:8711, 1984; Koncz, Proc. Natl. Acad. Sci. USA 86:8467-8471, 1986; Koncz, Plant Mol. Biol. 20:963-976, 1992; Koncz, Specialized vectors for gene tagging and

- expression studies. In: Plant Molecular Biology Manual Vol. 2, Gelvin and Schilperoort (Eds.), Dordrecht, The Netherlands: Kluwer Academic Publ. (1994), 1-22; European Patent A-1 20 516; Hoekema: The Binary Plant Vector System, Offsetdrukkerij Kanters B. V., Alblaserdam (1985), Chapter V; Fraley, Crit. Rev. Plant. Sci., 4:1-46; An, EMBO J. 4:277-287, 1985).
- 5     Where a polynucleotide portion of a plant stress-regulated gene is contained in vector, the vector can contain functional elements, for example "left border" and "right border" sequences of the T-DNA of *Agrobacterium*, which allow for stable integration into a plant genome. Furthermore, methods and vectors that permit the
- 10    generation of marker-free transgenic plants, for example, where a selectable marker gene is lost at a certain stage of plant development or plant breeding, are known, and include, for example, methods of co-transformation (Lyznik, Plant Mol. Biol. 13:151-161, 1989; Peng, Plant Mol. Biol. 27:91-104, 1995), or methods that utilize enzymes capable of promoting homologous recombination in plants (see, e.g., W097/08331;
- 15    Bayley, Plant Mol. Biol. 18:353-361, 1992; Lloyd, Mol. Gen. Genet. 242:653-657, 1994; Maeser, Mol. Gen. Genet. 230:170-176, 1991; Onouchi, Nucl. Acids Res. 19:6373-6378, 1991; see, also, Sambrook et al., *supra*, 1989).
- A direct gene transfer method such as electroporation also can be used to introduce a polynucleotide portion of a plant stress-regulated gene into a cell such as a
- 20    plant cell. For example, plant protoplasts can be electroporated in the presence of the regulatory element, which can be in a vector (Fromm et al., Proc. Natl. Acad. Sci. USA 82:5824, 1985, which is incorporated herein by reference). Electrical impulses of high field strength reversibly permeabilize membranes allowing the introduction of the nucleic acid. Electroporated plant protoplasts reform the cell wall, divide and
- 25    form a plant callus. Microinjection can be performed as described in Potrykus and Spangenberg (eds.), *Gene Transfer To Plants* (Springer Verlag, Berlin, NY 1995). A transformed plant cell containing the introduced polynucleotide can be identified by detecting a phenotype due to the introduced polynucleotide, for example, increased or decreased tolerance to a stress condition.
- 30    Microprojectile mediated transformation also can be used to introduce a polynucleotide into a plant cell (Klein et al., Nature 327:70-73, 1987, which is incorporated herein by reference). This method utilizes microprojectiles such as gold

or tungsten, which are coated with the desired nucleic acid molecule by precipitation with calcium chloride, spermidine or polyethylene glycol. The microprojectile particles are accelerated at high speed into a plant tissue using a device such as the BIOLISTIC PD-1000 (BioRad; Hercules CA).

- 5 Microprojectile mediated delivery ("particle bombardment") is especially useful to transform plant cells that are difficult to transform or regenerate using other methods. Methods for the transformation using biolistic methods are well known (Wan, Plant Physiol. 104:37-48, 1984; Vasil, Bio/Technology 11:1553-1558, 1993; Christou, Trends in Plant Science 1:423-431, 1996). Microprojectile mediated
- 10 transformation has been used, for example, to generate a variety of transgenic plant species, including cotton, tobacco, corn, hybrid poplar and papaya (see Glick and Thompson, *supra*, 1993). Important cereal crops such as wheat, oat, barley, sorghum and rice also have been transformed using microprojectile mediated delivery (Duan et al., Nature Biotech. 14:494-498, 1996; Shimamoto, Curr. Opin. Biotech. 5:158-162,
- 15 1994). A rapid transformation regeneration system for the production of transgenic plants such as a system that produces transgenic wheat in two to three months (see European Patent No. EP 0709462A2, which is incorporated herein by reference) also can be useful for producing a transgenic plant using a method of the invention, thus allowing more rapid identification of gene functions. The transformation of most
- 20 dicotyledonous plants is possible with the methods described above. Transformation of monocotyledonous plants also can be transformed using, for example, biolistic methods as described above, protoplast transformation, electroporation of partially permeabilized cells, introduction of DNA using glass fibers, *Agrobacterium* mediated transformation, and the like.
- 25 Plastid transformation also can be used to introduce a polynucleotide portion of a plant stress-regulated gene into a plant cell (U.S. Patent Nos. 5,451,513, 5,545,817, and 5,545,818; WO 95/16783; McBride et al., Proc. Natl. Acad. Sci. USA 91:7301-7305, 1994). Chloroplast transformation involves introducing regions of cloned plastid DNA flanking a desired nucleotide sequence, for example, a selectable
- 30 marker together with polynucleotide of interest into a suitable target tissue, using, for example, a biolistic or protoplast transformation method (e.g., calcium chloride or PEG mediated transformation). One to 1.5 kb flanking regions ("targeting

- sequences") facilitate homologous recombination with the plastid genome, and allow the replacement or modification of specific regions of the plastome. Using this method, point mutations in the chloroplast 16S rRNA and rps12 genes, which confer resistance to spectinomycin and streptomycin, can be utilized as selectable markers
- 5 for transformation (Svab et al., Proc. Natl. Acad. Sci., USA 87:8526-8530, 1990; Staub and Maliga, Plant Cell 4:39-45, 1992), resulted in stable homoplasmic transformants; at a frequency of approximately one per 100 bombardments of target leaves. The presence of cloning sites between these markers allowed creation of a plastid targeting vector for introduction of foreign genes (Staub and Maliga, EMBO J.
- 10 12:601-606, 1993). Substantial increases in transformation frequency are obtained by replacement of the recessive rRNA or r-protein antibiotic resistance genes with a dominant selectable marker, the bacterial *aadA* gene encoding the spectinomycin-detoxifying enzyme aminoglycoside-3'-adenyltransferase (Svab and Maliga, Proc. Natl. Acad. Sci., USA 90:913-917, 1993). Approximately 15 to 20 cell division
- 15 cycles following transformation are generally required to reach a homoplastic state. Plastid expression, in which genes are inserted by homologous recombination into all of the several thousand copies of the circular plastid genome present in each plant cell, takes advantage of the enormous copy number advantage over nuclear-expressed genes to permit expression levels that can readily exceed 10% of the total soluble
- 20 plant protein.

- Plants suitable to treatment according to a method of the invention can be monocots or dicots and include, but are not limited to, corn (*Zea mays*), *Brassica* sp. (e.g., *B. napus*, *B. rapa*, *B. juncea*), particularly those *Brassica* species useful as
- 25 sources of seed oil, alfalfa (*Medicago sativa*), rice (*Oryza sativa*), rye (*Secale cereale*), sorghum (*Sorghum bicolor*, *Sorghum vulgare*), millet (e.g., pearl millet (*Pennisetum glaucum*), proso millet (*Panicum miliaceum*), foxtail millet (*Setaria italica*), finger millet (*Eleusine coracana*)), sunflower (*Helianthus annuus*), safflower (*Carthamus tinctorius*), wheat (*Triticum aestivum*), soybean (*Glycine max*), tobacco (*Nicotiana tabacum*), potato (*Solanum tuberosum*), peanuts (*Arachis hypogaea*),
- 30 cotton (*Gossypium barbadense*, *Gossypium hirsutum*), sweet potato (*Ipomoea batatas*), cassava (*Manihot esculenta*), coffee (*Cofea* spp.), coconut (*Cocos nucifera*), pineapple (*Ananas comosus*), citrus trees (*Citrus* spp.), cocoa (*Theobroma cacao*), tea

- (*Camellia sinensis*), banana (*Musa* spp.), avocado (*Persea utilis*), fig (*Ficus casica*), guava (*Psidium guajava*), mango (*Mangifera indica*), olive (*Olea europaea*), papaya (*Carica papaya*), cashew (*Anacardium occidentale*), macadamia (*Macadamia integrifolia*), almond (*Prunus amygdalus*), sugar beets (*Beta vulgaris*), sugarcane (*Saccharum* spp.), oats, duckweed (*Lemna*), barley, tomatoes (*Lycopersicon esculentum*), lettuce (e.g., *Lactuca sativa*), green beans (*Phaseolus vulgaris*), lima beans (*Phaseolus limensis*), peas (*Lathyrus* spp.), and members of the genus *Cucumis* such as cucumber (*C. sativus*), cantaloupe (*C. cantalupensis*), and musk melon (*C. melo*).
- 10 Ornamentals such as azalea (*Rhododendron* spp.), hydrangea (*Macrophylla hydrangea*), hibiscus (*Hibiscus rosasanensis*), roses (*Rosa* spp.), tulips (*Tulipa* spp.), daffodils (*Narcissus* spp.), petunias (*Petunia hybrida*), carnation (*Dianthus caryophyllus*), poinsettia (*Euphorbia pulcherrima*), and chrysanthemum are also included. Additional ornamentals within the scope of the invention include impatiens,
- 15 Begonia, Pelargonium, Viola, Cyclamen, Verbena, Vinca, Tagetes, Primula, Saint Paulia, Agertum, Amaranthus, Antihirrhinum, Aquilegia, Cineraria, Clover, Cosmo, Cowpea, Dahlia, Datura, Delphinium, Gerbera, Gladiolus, Gloxinia, Hippeastrum, Mesembryanthemum, Salpiglossos, and Zinnia.
- Conifers that may be employed in practicing the present invention include, for
- 20 example, pines such as loblolly pine (*Pinus taeda*), slash pine (*Pinus elliotii*), ponderosa pine (*Pinus ponderosa*), lodgepole pine (*Pinus contorta*), and Monterey pine (*Pinus radiata*), Douglas-fir (*Pseudotsuga menziesii*); Western hemlock (*Tsuga utilis*); Sitka spruce (*Picea glauca*); redwood (*Sequoia sempervirens*); true firs such as silver fir (*Abies amabilis*) and balsam fir (*Abies balsamea*); and cedars such as
- 25 Western red cedar (*Thuja plicata*) and Alaska yellow-cedar (*Chamaecyparis nootkatensis*).
- Leguminous plants which may be used in the practice of the present invention include beans and peas. Beans include guar, locust bean, fenugreek, soybean, garden beans, cowpea, mungbean, lima bean, fava bean, lentils, chickpea, etc. Legumes
- 30 include, but are not limited to, *Arachis*, e.g., peanuts, *Vicia*, e.g., crown vetch, hairy vetch, adzuki bean, mung bean, and chickpea, *Lupinus*, e.g., lupine, trifolium, *Phaseolus*, e.g., common bean and lima bean, *Pisum*, e.g., field bean, *Melilotus*, e.g.,

clover, *Medicago*, e.g., alfalfa, Lotus, e.g., trefoil, lens, e.g., lentil, and false indigo. Preferred forage and turf grass for use in the methods of the invention include alfalfa, orchard grass, tall fescue, perennial ryegrass, creeping bent grass, and redtop.

Other plants within the scope of the invention include *Acacia*, aneth, artichoke,

- 5 arugula, blackberry, canola, cilantro, clementines, escarole, eucalyptus, fennel, grapefruit, honey dew, jicama, kiwifruit, lemon, lime, mushroom, nut, okra, orange, parsley, persimmon, plantain, pomegranate, poplar, radiata pine, radicchio, Southern pine, sweetgum, tangerine, triticale, vine, yams, apple, pear, quince, cherry, apricot, melon, hemp, buckwheat, grape, raspberry, chenopodium, blueberry, nectarine, peach,
- 10 plum, strawberry, watermelon, eggplant, pepper, cauliflower, Brassica, e.g., broccoli, cabbage, utillan sprouts, onion, carrot, leek, beet, broad bean, celery, radish, pumpkin, endive, gourd, garlic, snapbean, spinach, squash, turnip, utililane, chicory, groundnut and zucchini.

Angiosperms are divided into two broad classes based on the number of

- 15 cotyledons, which are seed leaves that generally store or absorb food; a monocotyledonous angiosperm has a single cotyledon, and a dicotyledonous angiosperm has two cotyledons. Angiosperms produce a variety of useful products including materials such as lumber, rubber, and paper; fibers such as cotton and linen; herbs and medicines such as quinine and vinblastine; ornamental flowers such as
- 20 roses and orchids; and foodstuffs such as grains, oils, fruits and vegetables.

Angiosperms encompass a variety of flowering plants, including, for example, cereal plants, leguminous plants, oilseed plants, hardwood trees, fruit-bearing plants and ornamental flowers, which general classes are not necessarily exclusive. Cereal plants, which produce an edible grain cereal, include, for example, corn, rice, wheat,

25 barley, oat, rye, orchardgrass, guinea grass, sorghum and turfgrass. Leguminous plants include members of the pea family (*Fabaceae*) and produce a characteristic fruit known as a legume. Examples of leguminous plants include, for example, soybean, pea, chickpea, moth bean, broad bean, kidney bean, lima bean, lentil, cowpea, dry bean, and peanut, as well as alfalfa, birdsfoot trefoil, clover and sainfoin.

- 30 Oilseed plants, which have seeds that are useful as a source of oil, include soybean, sunflower, rapeseed (canola) and cottonseed.



- Angiosperms also include hardwood trees, which are perennial woody plants that generally have a single stem (trunk). Examples of such trees include alder, ash, aspen, basswood (linden), beech, birch, cherry, cottonwood, elm, eucalyptus, hickory, locust, maple, oak, persimmon, poplar, sycamore, walnut, sequoia, and willow. Trees are useful, for example, as a source of pulp, paper, structural material and fuel.

- Angiosperms are fruit-bearing plants that produce a mature, ripened ovary, which generally contains seeds. A fruit can be suitable for human or animal consumption or for collection of seeds to propagate the species. For example, hops are a member of the mulberry family that are prized for their flavoring in malt liquor.
- Fruit-bearing angiosperms also include grape, orange, lemon, grapefruit, avocado, date, peach, cherry, olive, plum, coconut, apple and pear trees and blackberry, blueberry, raspberry, strawberry, pineapple, tomato, cucumber and eggplant plants. An ornamental flower is an angiosperm cultivated for its decorative flower. Examples of commercially important ornamental flowers include rose, orchid, lily, tulip and chrysanthemum, snapdragon, camellia, carnation and petunia plants. The skilled artisan will recognize that the methods of the invention can be practiced using these or other angiosperms, as desired, as well as gymnosperms, which do not produce seeds in a fruit.

- A method of producing a transgenic plant can be performed by introducing a polynucleotide portion of plant stress-regulated gene into a plant cell genome, whereby the polynucleotide portion of the plant stress-regulated gene modulates a response of the plant cell to a stress condition, thereby producing a transgenic plant, which comprises plant cells that exhibit altered responsiveness to the stress condition. In one embodiment, the polynucleotide portion of the plant stress-regulated gene encodes a stress-regulated polypeptide or functional peptide portion thereof, wherein expression of the stress-regulated polypeptide or functional peptide portion thereof either increases the stress tolerance of the transgenic plant, or decreases the stress tolerance of the transgenic plant. The polynucleotide portion of the plant stress-regulated gene encoding the stress-regulated polypeptide or functional peptide portion thereof can be operatively linked to a heterologous promoter.

In another embodiment, the polynucleotide portion of the plant stress-regulated gene comprises a stress-regulated regulatory element. The stress-regulated

regulatory element can integrate into the plant cell genome in a site-specific manner, whereupon it can be operatively linked to an endogenous nucleotide sequence, which can be expressed in response to a stress condition specific for the regulatory element; or can be a mutant regulatory element, which is not responsive to the stress condition,

5 whereby upon integrating into the plant cell genome, the mutant regulatory element disrupts an endogenous stress-regulated regulatory element of a plant stress-regulated gene, thereby altering the responsiveness of the plant stress-regulated gene to the stress condition. Accordingly, the invention also provides genetically modified plants, including transgenic plants, produced by such a method, and a plant cell

10 obtained from such genetically modified plant, wherein said plant cell exhibits altered responsiveness to the stress condition; a seed produced by a transgenic plant; and a cDNA library prepared from a transgenic plant.

Also provided is a method of modulating the responsiveness of a plant cell to a stress condition. Such a method can be performed, for example, by introducing a

15 polynucleotide portion of a plant stress-regulated gene into the plant cell, thereby modulating the responsiveness of the plant cell to a stress condition. As disclosed herein, the responsiveness of the plant cell can be increased or decreased upon exposure to the stress condition, and the altered responsiveness can result in increased or decreased tolerance of the plant cell to a stress condition. The polynucleotide

20 portion of the plant stress-regulated gene can, but need not, be integrated into the genome of the plant cell, thereby modulating the responsiveness of the plant cell to the stress condition. Accordingly, the invention also provide a genetically modified plant, including a transgenic plant, which contains an introduced polynucleotide portion of a plant stress-regulated gene, as well as plant cells, tissues, and the like,

25 which exhibit modulated responsiveness to a stress condition.

The polynucleotide portion of the plant stress-regulated gene can encode a stress-regulated polypeptide or functional peptide portion thereof, which can be operatively linked to a heterologous promoter. As used herein, reference to a "functional peptide portion of a plant stress-regulated polypeptide" means a

30 contiguous amino acid sequence of the polypeptide that has an activity of the full length polypeptide, or that has an antagonist activity with respect to the full length polypeptide, or that presents an epitope unique to the polypeptide. Thus, by

expressing a functional peptide portion of a plant stress-regulated polypeptide in a plant cell, the peptide can act as an agonist or an antagonist of the polypeptide, thereby modulating the responsiveness of the plant cell to a stress condition.

- A polynucleotide portion of the plant stress-regulated nucleotide sequence also
- 5 can contain a mutation, whereby upon integrating into the plant cell genome, the polynucleotide disrupts (knocks-out) an endogenous plant stress-regulated nucleotide sequence, thereby modulating the responsiveness of said plant cell to the stress condition. Depending on whether the knocked-out gene encodes an adaptive or a maladaptive stress-regulated polypeptide, the responsiveness of the plant will be
- 10 modulated accordingly. Thus, a method of the invention provides a means of producing a transgenic plant having a knock-out phenotype of a plant stress-regulated nucleotide sequence.

- Alternatively, the responsiveness of a plant or plant cell to a stress condition can be modulated by use of a suppressor construct containing dominant negative
- 15 mutation for any of the stress-regulated sequences described herein. Expression of a suppressor construct containing a dominant mutant mutation generates a mutant transcript that, when coexpressed with the wild-type transcript inhibits the action of the wild-type transcript. Methods for the design and use of dominant negative constructs are well known (see, for example, in Herskowitz, Nature 329:219-222,
- 20 1987; Lagna and Hemmati-Brivanlou, Curr. Topics Devel. Biol. 36:75-98, 1998).

- The polynucleotide portion of the plant stress-regulated gene also can comprise a stress-regulated regulatory element, which can be operatively linked to a heterologous nucleotide sequence, which, upon expression from the regulatory
- 25 element in response to a stress condition, modulates the responsiveness of the plant cell to the stress condition. Such a heterologous nucleotide sequence can encode, for example, a stress-inducible transcription factor such as DREB1A, which, upon exposure to the stress condition, is expressed such that it can amplify the stress response (see Kasuga et al., *supra*, 1999). The heterologous nucleotide sequence also can encode a polynucleotide that is specific for a plant stress-regulated gene, for
- 30 example, an antisense molecule, a ribozyme, and a triplexing agent, either of which, upon expression in the plant cell, reduces or inhibits expression of a stress-regulated polypeptide encoded by the gene, thereby modulating the responsiveness of the plant

cell to a stress condition, for example, an abnormal level of cold, osmotic pressure, and salinity. As used herein, the term "abnormal," when used in reference to a condition such as temperature, osmotic pressure, salinity, or any other condition that can be a stress condition, means that the condition varies sufficiently from a range generally considered optimum for growth of a plant that the condition results in an induction of a stress response in a plant. Methods of determining whether a stress response has been induced in a plant are disclosed herein or otherwise known in the art.

- A plant stress-regulated regulatory element can be operatively linked to a heterologous polynucleotide sequence, such that the regulatory element can be introduced into a plant genome in a site-specific matter by homologous recombination. For example, a mutant plant stress-regulated regulatory element for a maladaptive stress-induced polypeptide can be transformed into a plant genome in a site specific manner by *in vivo* mutagenesis, using a hybrid RNA-DNA oligonucleotide ("chimeroplast" (TIBTECH 15:441- 447, 1997; W0 95/15972; Kren, Hepatology 25:1462-1468, 1997; Cole-Strauss, Science 273:1386-1389, 1996, each of which is incorporated herein by reference). Part of the DNA component of the RNA-DNA oligonucleotide is homologous to a nucleotide sequence comprising the regulatory element of the maladaptive gene, but includes a mutation or contains a heterologous region which is surrounded by the homologous regions. By means of base pairing of the homologous regions of the RNA-DNA oligonucleotide and of the endogenous nucleic acid molecule, followed by a homologous recombination the mutation contained in the DNA component of the RNA-DNA oligonucleotide or the heterologous region can be transferred to the plant genome, resulting in a "mutant" gene that, for example, is not induced in response to a stress and, therefore, does not confer the maladaptive phenotype. Such a method similarly can be used to knock-out the activity of a stress-regulated gene, for example, in an undesirable plant. Such a method can provide the advantage that a desirable wild-type plant need not compete with the undesirable plant, for example, for light, nutrients, or the like.
- A method of modulating the responsiveness of a plant cell to a stress condition also can be performed by introducing a mutation in the chromosomal copy of a plant stress-regulated gene, for example, in the stress-regulated regulatory element, by

transforming a cell with a chimeric oligonucleotide composed of a contiguous stretch of RNA and DNA residues in a duplex conformation with double hairpin caps on the ends. An additional feature of the oligonucleotide is the presence of 2'-O- methylation at the RNA residues. The RNA/DNA sequence is designed to align with the sequence of a chromosomal copy of the target regulatory element and to contain the desired nucleotide change (see U.S. Pat. No. 5,501,967, which is incorporated herein by reference).

A plant stress-regulated regulatory element also can be operatively linked to a heterologous polynucleotide such that, upon expression from the regulatory element in the plant cell, confers a desirable phenotype on the plant cell. For example, the heterologous polynucleotide can encode an aptamer, which can bind to a stress-induced polypeptide. Aptamers are nucleic acid molecules that are selected based on their ability to bind to and inhibit the activity of a protein or metabolite. Aptamers can be obtained by the SELEX (Systematic Evolution of Ligands by Exponential Enrichment) method (see U.S. Pat. No. 5,270,163), wherein a candidate mixture of single stranded nucleic acids having regions of randomized sequence is contacted with a target, and those nucleic acids having a specific affinity to the target are partitioned from the remainder of the candidate mixture, and amplified to yield a ligand enriched mixture. After several iterations a nucleic acid molecule (aptamer) having optimal affinity for the target is obtained. For example, such a nucleic acid molecule can be operatively linked to a plant stress-regulated regulatory element and introduced into a plant. Where the aptamer is selected for binding to a polypeptide that normally is expressed from the regulatory element and is involved in an adaptive response of the plant to a stress, the recombinant molecule comprising the aptamer can be useful for inhibiting the activity of the stress-regulated polypeptide, thereby decreasing the tolerance of the plant to the stress condition.

The invention provides a genetically modified plant, which can be a transgenic plant, that is tolerant or resistant to a stress condition. As used herein, the term "tolerant" or "resistant," when used in reference to a stress condition of a plant, means that the particular plant, when exposed to a stress condition, shows less of an effect, or no effect, in response to the condition as compared to a corresponding reference plant (naturally occurring wild-type plant or a plant not containing a construct of the

present invention). As a consequence, a plant encompassed within the present invention grows better under more widely varying conditions, has higher yields and/or produces more seeds. Thus, a transgenic plant produced according to a method of the invention can demonstrate protection (as compared to a corresponding reference plant) from a delay to complete inhibition of alteration in cellular metabolism, or reduced cell growth or cell death caused by the stress. Preferably, the transgenic plant is capable of substantially normal growth under environmental conditions where the corresponding reference plant shows reduced growth, metabolism or viability, or increased male or female sterility.

10       The determination that a plant modified according to a method of the invention has increased resistance to a stress-inducing condition can be made by comparing the treated plant with a control (reference) plant using well known methods. For example, a plant having increased tolerance to saline stress can be identified by growing the plant on a medium such as soil, which contains a higher  
15       content of salt in the order of at least about 10% compared to a medium the corresponding reference plant is capable of growing on. Advantageously, a plant treated according to a method of the invention can grow on a medium or soil containing at least about 50%, or more than about 75%, particularly at least about more than 100%, and preferably more than about 200% salt than the medium or soil  
20       on which a corresponding reference plant can grow. In particular, such a treated plant can grow on medium or soil containing at least 40 mM, generally at least 100 mM, particularly at least 200 mM, and preferably at least 300 mM salt, including, for example, a water soluble inorganic salt such as sodium sulfate, magnesium sulfate, calcium sulfate, sodium chloride, magnesium chloride, calcium chloride, potassium  
25       chloride, or the like; salts of agricultural fertilizers, and salts associated with alkaline or acid soil conditions; particularly NaCl.

      In another embodiment, the invention provides a plant that is less tolerant or less resistant to a stress condition as compared to a corresponding reference plant. As used herein, the term "less tolerant" or "less resistant," when used in reference to a  
30       stress condition of a plant, means that the particular plant, when exposed to a stress condition, shows an alteration in response to the condition as compared to a corresponding reference plant. As a consequence, such a plant, which generally is an

undesirable plant species, is less likely to grow when exposed to a stress condition than an untreated plant.

The present invention also relates to a method of expressing a heterologous nucleotide sequence in a plant cell. Such a method can be performed, for example, by introducing into the plant cell a plant stress-regulated regulatory element operatively linked to the heterologous nucleotide sequence, whereby, upon exposure of the plant cell to stress condition, the heterologous nucleotide sequence is expressed in the plant cell. The heterologous nucleotide sequence can encode a selectable marker, or preferably, a polypeptide that confers a desirable trait upon the plant cell, for example, a polypeptide that improves the nutritional value, digestibility or ornamental value of the plant cell, or a plant comprising the plant cell. Accordingly, the invention provides a transgenic plant that, in response to a stress condition, can produce a heterologous polypeptide from a plant stress-regulated regulatory element. Such transgenic plants can provide the advantage that, when grown in a cold environment for example, expression of the heterologous polypeptide from a plant cold-regulated regulatory element can result in increased nutritional value of the plant.

The present invention further relates to a method of modulating the activity of a biological pathway in a plant cell, wherein the pathway involves a stress-regulated polypeptide. As used herein, reference to a pathway that "involves" a stress-regulated polypeptide means that the polypeptide is required for normal function of the pathway. For example, plant stress-regulated polypeptides as disclosed herein include those acting as kinases or as transcription factors, which are well known to be involved in signal transduction pathways. As such, a method of the invention provides a means to modulate biological pathways involving plant stress-regulated polypeptides, for example, by altering the expression of the polypeptides in response to a stress condition. Thus, a method of the invention can be performed, for example, by introducing a polynucleotide portion of a plant stress-regulated gene into the plant cell, thereby modulating the activity of the biological pathway.

A method of the invention can be performed with respect to a pathway involving any of the stress-regulated polypeptides as encoded by a polynucleotide of SEQ ID NOS:1-2703, including for example, a stress-regulated transcription factor, an enzyme, including a kinase, a channel protein (see, for example, Tables 29-31; see,

also, Table 1). Pathways in which the disclosed stress-regulated stress factors are involved can be identified, for example, by searching the Munich Information Center for Protein Sequences (MIPS) *Arabidopsis thaliana* database (MATDB), which is at <http://www.mips.biochem.mpg.de/proj/thal/>.

- 5       The present invention also relates to a method of identifying a polynucleotide that modulates a stress response in a plant cell. Such a method can be performed, for example, by contacting an array of probes representative of a plant cell genome and nucleic acid molecules expressed in plant cell exposed to the stress; detecting a nucleic acid molecule that is expressed at a level different from a level of expression  
10   in the absence of the stress; introducing the nucleic acid molecule that is expressed differently into a plant cell; and detecting a modulated response of the plant cell containing the introduced nucleic acid molecule to a stress, thereby identifying a polynucleotide that modulates a stress response in a plant cell. The contacting is under conditions that allow for selective hybridization of a nucleic acid molecule with  
15   probe having sufficient complementarity, for example, under stringent hybridization conditions.

- As used herein, the term "array of probes representative of a plant cell genome" means an organized group of oligonucleotide probes that are linked to a solid support, for example, a microchip or a glass slide, wherein the probes can  
20   hybridize specifically and selectively to nucleic acid molecules expressed in a plant cell. Such an array is exemplified herein by a GeneChip® *Arabidopsis* Genome Array (Affymetrix; see Example 1). In general, an array of probes that is "representative" of a plant genome will identify at least about 30% or the expressed nucleic acid molecules in a plant cell, generally at least about 50% or 70%, particularly at least  
25   about 30% or 90%, and preferably will identify all of the expressed nucleic acid molecules. It should be recognized that the greater the representation, the more likely all nucleotide sequences of cluster of stress-regulated genes will be identified.

- A method of the invention is exemplified in Example 1, wherein clusters of *Arabidopsis* genes induced to cold, to increased salinity, to increased osmotic  
30   pressure, and to a combination of the above three stress conditions were identified. Based on the present disclosure, the artisan readily can obtain nucleic acid samples for *Arabidopsis* plants exposed to other stress conditions, or combinations of stress



conditions, and identify clusters of genes induced in response to the stress conditions. Similarly, the method is readily adaptable to identifying clusters of stress-regulated genes expressed in other plant species, particularly commercially valuable plant species, where a substantial amount of information is known regarding the genome.

- 5       The clusters of genes identified herein include those clusters of genes that are induced or repressed in response to a combination of stress conditions, but not to any of the stress conditions alone; and clusters of genes that are induced or repressed in response to a selected stress condition, but not to other stress conditions tested. Furthermore, clusters of genes that respond to a stress condition in a temporally
- 10   regulated manner are also included, such as gene clusters that are induced early (for example, within about 3 hours), late (for example, after about 8 to 24 hours), or continuously in a stress response. In addition, the genes within a cluster are represented by a variety of cellular proteins, including transcription factors, enzymes such as kinases, channel proteins, and the like (see Tables 1 and 29-31). Thus, the
- 15   present invention further characterizes nucleotide sequences that previously were known to encode cellular peptides by classifying them within clusters of stress-regulated genes.

- The present invention additionally relates to a method of identifying a stress condition to which a plant cell was exposed. Such a method can be performed, for
- 20   example, by contacting nucleic acid molecules expressed in the plant cell and an array of probes representative of the plant cell genome; and detecting a profile of expressed nucleic acid molecules characteristic of a stress response, thereby identifying the stress condition to which the plant cell was exposed. The contacting generally is under conditions that allow for selective hybridization of a nucleic acid molecule with
- 25   probe having sufficient complementarity, for example, under stringent hybridization conditions. The profile can be characteristic of exposure to a single stress condition, for example, an abnormal level of cold, osmotic pressure, or salinity (Tables 3-14), or can be characteristic of exposure to more than one stress condition (Tables 15-26, for example, cold, increased osmotic pressure and increased salinity (see Tables 24-26).

- 30   The method can be practiced using at least one nucleic acid probe and can identify one or combination of stress conditions by detecting altered expression of one or a plurality of polynucleotides representative of plant stress-regulated genes. As

used herein, the term "at least one" includes one, two, three or more, for example, five, ten, twenty, fifty or more polynucleotides, nucleic acid probes, and the like. The term "plurality" is used herein to mean two or more, for example, three, four, five or more, including ten, twenty, fifty or more polynucleotides, nucleic acid probes, and the like.

In a method of the invention, nucleic acid samples from the plant cells to be collected can be contacted with an array, then the profile can be compared with known expression profiles prepared from nucleic acid samples of plants exposed to a known stress condition or combination of stress conditions. By creating a panel of such profiles, representative of various stress conditions, an unknown stress condition to which a plant was exposed can be identified simply by comparing the unknown profile with the known profiles and determining which known profile that matches the unknown profile. Preferably, the comparison is automated. Such a method can be useful, for example, to identify a cause of damage to a crop, where the condition causing the stress is not known or gradually increases over time. For example, accumulation in soils over time of salts from irrigation water can result in gradually decreasing crop yields. Because the accumulation is gradual, the cause of the decreased yield may not be readily apparent. Using the present methods, it is possible to evaluate the stress to which the plants are exposed, thus revealing the cause of the decreased yields.

The present invention, therefore includes a computer readable medium containing executable instructions for receiving expression data for sequences substantially similar to any of those disclosed herein and comparing expression data from a test plant to a reference plant that has been exposed to an abiotic stress. Also provided is a computer-readable medium containing sequence data for sequences substantially similar to any of the sequences described herein, or the complements thereof, and a module for comparing such sequences to other nucleic acid sequences.

Also provided are plants and plant cells comprising plant stress-regulatory elements of the present invention operably linked to a nucleotide sequence encoding a detectable signal. Such plants can be used as diagnostic or "sentinel" plants to provide early warning that nearby plants are being stressed so that appropriate actions can be taken. In one embodiment, the signal is one that alters the appearance of the

plant. For example, an osmotic stress regulatory element of the present invention can be operably linked to a nucleotide sequence encoding a fluorescent protein such as green fluorescent protein. When subjected to osmotic stress, the expression of the green fluorescent protein in the sentinel plant provides a visible signal so that appropriate actions can be taken to remove or alleviate the stress. The use of fluorescent proteins in plants is well known (see, for example, in Leffell et al., BioTechniques 23:912, 1997).

The invention further relates to a method of identifying an agent that modulates the activity of a stress-regulated regulatory element of a plant. As used herein, the term "modulate the activity," when used in reference to a plant stress-regulated regulatory element, means that expression of a polynucleotide from the regulatory element is increased or decreased. In particular, expression can be increased or decreased with respect to the basal activity of the promoter, i.e., the level of expression, if any, in the absence of a stress condition that normally induces expression from the regulatory element; or can be increased or decreased with respect to the level of expression in the presence of the inducing stress condition. As such, an agent can act as a mimic of a stress condition, or can act to modulate the response to a stress condition.

Such a method can be performed, for example, by contacting the regulatory element with an agent suspected of having the ability to modulate the activity of the regulatory element, and detecting a change in the activity of the regulatory element. In one embodiment, the regulatory element can be operatively linked to a heterologous polynucleotide encoding a reporter molecule, and an agent that modulates the activity of the stress-regulated regulatory element can be identified by detecting a change in expression of the reporter molecule due to contacting the regulatory element with the agent. Such a method can be performed *in vitro* in a plant cell-free system, or in a plant cell in culture or in a plant *in situ*.

A method of the invention also can be performed by contacting the agent is contacted with a genetically modified cell or a transgenic plant containing an introduced plant stress-regulated regulatory element, and an agent that modulates the activity of the regulatory element is identified by detecting a phenotypic change in the modified cell or transgenic plant.

A method of the invention can be performed in the presence or absence of the stress condition to which the particularly regulatory element is responsive. As such, the method can identify an agent that modulates the activity of plant stress-regulated promoter in response to the stress, for example, an agent that can enhance the stress response or can reduce the stress response. In particular, a method of the invention can identify an agent that selectively activates the stress-regulated regulatory elements of a cluster of plant stress-regulated genes, but does not affect the activity of other stress-regulated regulatory genes. As such, the method provides a means to identify an agent that acts as a stress mimic. Such agents can be particularly useful to prepare a plant to an expected stress condition. For example, a agent that acts as a cold mimic can be applied to a field of plants prior to the arrival of an expected cold front. Thus, the cold stress response can be induced prior to the actual cold weather, thereby providing the plants with the protection of the stress response, without the plants suffering from any initial damage due to the cold. Similarly, an osmotic pressure mimic can be applied to a crop of plants prior a field being flooded by a rising river.

In one embodiment, the present invention provides a method for marker-assisted selection. Marker-assisted selection involves the selection of plants having desirable phenotypes based on the presence of particular nucleotide sequences ("markers"). The use of markers allows plants to be selected early in development, often before the phenotype would normally be manifest. Because it allows for early selection, marker-assisted selection decreases the amount of time need for selection and thus allows more rapid genetic progress.

Briefly, marker-assisted selection involves obtaining nucleic acid from a plant to be selected. The nucleic acid obtained is then probed with probes that selectively hybridize under stringent, preferably highly stringent, conditions to a nucleotide sequence or sequences associated with the desired phenotype. In one embodiment, the probes hybridize to any of the stress-responsive genes or regulatory regions disclosed herein, for example, any one of SEQ ID NOS:1-2703. The presence of any hybridization products formed is detected and plants are then selected on the presence or absence of the hybridization products.

The following examples are intended to illustrate but not limit the invention.

**EXAMPLE 1****PROFILING OF PLANT STRESS-REGULATED GENES**

This example demonstrates that clusters of stress-regulated genes can be identified in plant cells exposed to various stress conditions, either alone or in combination.

A GeneChip® Arabidopsis Genome Array (Affymetrix, Santa Clara, CA) was used to identify clusters of genes that were coordinately induced in response to various stress conditions. The GeneChip® Arabidopsis Genome Array contains probes synthesized *in situ* and is designed to measure temporal and spatial gene expression of approximately 8700 genes in greater than 100 EST clusters. The sequences used to develop the array were obtained from GenBank (<http://www.ncbi.nlm.nih.gov/>) in collaboration with Torrey Mesa Research Institute (San Diego, CA), formerly known as Novartis Agriculture Discovery Institute. Eighty percent of the nucleotide sequences represented on the array are predicted coding sequences from genomic BAC entries; twenty percent are high quality cDNA sequences. The array also contains over 100 EST clusters that share homology with the predicted coding sequences from BAC clones (see, for example, world wide web at address ([url](http://www.affymetrix.com/products/Arabidopsis_content.html)) "[affymetrix.com/products/Arabidopsis\\_content.html](http://www.affymetrix.com/products/Arabidopsis_content.html)").

The Affymetrix GeneChip® array was used to define nucleotide sequences/ pathways affected by various abiotic stresses and to define which are uniquely regulated by one stress and those that respond to multiple stress, and to identify candidate nucleotide sequences for screening for insertional mutants. Of the approximately 8,700 nucleotide sequences represented on the Affymetrix GeneChip® array, 2862 nucleotide sequences showed at least a 2-fold change in expression in at least one sample, relative to no-treatment controls. Of those 2,862 nucleotide sequences 1,335 were regulated only by cold stress, 166 were regulated only mannitol stress and 209 were regulated only by saline stress. Furthermore, of the 2,862 nucleotide sequences 123 nucleotide sequences were regulated by salt and mannitol stress, 293 were regulated by mannitol and cold stress, 274 were regulated by cold and saline stress and 462 were regulated by cold, mannitol and salt. Of the 2,862 nucleotide sequences, 771 passed the higher stringency of showing at least a

2-fold change in expression in at least 2 samples, relative to control. And, 508 of the 771 nucleotide sequences were found in an in-house collection of insertion mutants.

The following describes in more detail how the experiments were done.

- Transcriptional profiling was performed by hybridizing fluorescence labeled cRNA with the oligonucleotides probes on the chip, washing, and scanning. Each gene is represented on the chip by about sixteen oligonucleotides (25-mers). Expression level is related to fluorescence intensity. Starting material contained 1 to 10 Tg total RNA; detection specificity was about  $1:10^6$ ; approximately a 2-fold change was detectable, with less than 2% false positive; the dynamic range was approximately 500x.
- 10 Nucleotide sequences having up to 70% to 80% identity could be discriminated using this system.

- Seven day old axenic *Arabidopsis* seedlings were transferred to Magenta boxes with rafts floating on MS medium. Three weeks later (28 day old seedlings), stresses were applied as follows: Control - no treatment; Cold - Magenta box placed in ice;
- 15 Mannitol - medium + 200 mM mannitol; Salt - medium + 100 mM NaCl. Tissue samples were collected at 3 hours and 27 hours into the stress, roots and aerial portions were harvested, RNA was purified, and the samples were analyzed using the GeneChip® *Arabidopsis* Genome Array (Affymetrix, Santa Clara, CA) following the manufacturer's protocol.
- 20 Raw fluorescence values as generated by Affymetrix software were processed as follows: the values were brought into Microsoft Excel and values of 25 or less were set to 25 (an empirically determined baseline, Zhu and Wang, Plant Physiol. 124:1472-1476; 2000). The values from the stressed samples were then converted to fold change relative to control by dividing the values from the stressed samples by the values from the no-treatment control samples. Expression patterns that were altered at least 2-fold with respect to the control were selected. This method gave very robust results and resulted in a larger number of nucleotide sequences called as stress-regulated than previous methods had permitted.

- Based on the profiles obtained following hybridization of nucleic acid molecules
- 30 obtained from plant cells exposed to various stress conditions to the probes in the microarray, clusters of nucleotide sequences that were altered in response to the stress

conditions were identified (see Tables 3-6, cold responsive; Tables 7-10, salt (saline) responsive; Tables 11 to 14, mannitol (osmotic) responsive; Tables 15-17, cold and mannitol responsive; Tables 18-20, 6 salt and cold responsive; Tables 21-23, salt and mannitol responsive; Tables 24-26, cold, salt and mannitol responsive. Examples of  
5 plant gene sequences that varied in expression at least two-fold in response to a combination of cold, saline and osmotic stress in root cells and leaf cells are shown in Tables 27 and 28, respectively. In addition, examples of plant gene sequences that encode transcription factors (Table 29), phosphatases (Table 30), and kinases (Table 31) and that varied at least two-fold in response to a combination of cold, saline and osmotic stress are provided.

Affymetrix ID numbers and corresponding SEQ ID NOS: for the respective *Arabidopsis* nucleotide sequences are provided Tables 3-26, and can be used to determine SEQ ID NOS: for the sequences shown by Affymetrix ID number in  
15 Tables 27-31. The Affymetrix ID number refers to a particular nucleotide sequence on the GeneChip® *Arabidopsis* Genome Array. In some cases, a particular plant stress-regulated gene sequence hybridized to more than one nucleotide sequence on the GeneChip® *Arabidopsis* Genome Array (see, for example, Table 3, where SEQ ID NO:36 is shown to have hybridized to the 12187\_AT and 15920\_I\_AT nucleotide sequences on the GeneChip®). In addition, it should be recognized that the disclosed  
20 sequences are not limited to coding sequences but, in some cases, include 5' untranslated sequences (see Table 2) or a longest coding region. As such, while the sequences set forth as SEQ ID NOS:1-2073 generally start with an ATG codon, in most cases each comprises a longer nucleotide sequence, including a regulatory region (see Table 2).

The results disclosed herein demonstrate that several polynucleotides, some of  
25 which were known to function as transcription factors, enzymes, and structural proteins, also are involved in the response of a plant cell to stress. The identification of the clusters of stress-regulated genes as disclosed herein provides a means to identify stress-regulated regulatory elements present in *Arabidopsis thaliana* nucleotide sequences, including consensus regulatory elements. It should be recognized, however that the  
30 regulatory elements of the plant genes comprising a sequence as set forth in SEQ ID NOS:156, 229, 233, 558, 573, 606, 625, 635, 787, and 813, which previously have

been described as cold regulated genes, are not encompassed within the stress-regulated gene regulatory element of the invention, and the regulatory elements of the plant genes comprising the nucleotide sequences set forth as SEQ ID NOS:1263, 1386, 1391, 1405, 1445, 1484, 1589, 1609, 1634, 1726, 1866, 1918, and 1928, which  
5 previously have been identified as genes that are responsive to a single stress condition such as cold or saline stress, are not encompassed within the plant stress-regulated gene regulatory elements of the invention to the extent that they confer stress-regulated expression only with respect to the known single stress. Furthermore, the identification of the *Arabidopsis* stress-regulated genes provides a means to identify  
10 the corresponding homologs and orthologs in other plants, including commercially valuable food crops such as wheat, rice, soy, and barley, and ornamental plants. BLASTN and BLASTP searches to identify such sequences revealed the polynucleotide sequences set forth in Table 32.

Although the invention has been described with reference to the above example,  
15 it will be understood that modifications and variations are encompassed within the spirit and scope of the invention. Accordingly, the invention is limited only by the claims, which follow Tables 1 to 32.



TABLE 1

## SEQUENCE DESCRIPTIONS

Seq ID	Description		
		41	scarecrow-like 7 (SCL7)
		42	putative protein
1	unknown protein	43	No function assigned by TIGR
2	unknown protein	44	unknown protein
3	unknown protein	45	unknown protein
4	putative auxin-induced protein		
5	unknown protein	SEQ ID	Description
6	hypothetical protein	46	succinyl-CoA-ligase alpha subunit
7	putative protein	47	putative protein
8	unknown protein	48	CLV1 receptor kinase like protein
9	unknown protein	49	putative receptor-like protein kinase
10	unknown protein		
11	putative protein	50	putative squalene synthase
12	Thioredoxin - like protein	51	putative receptor protein kinase
13	putative RNA helicase	52	somatic embryogenesis receptor- like kinase, putative
14	putative protein		
15	putative protein	53	putative protein
16	RING zinc finger protein, putative	54	putative beta-glucosidase
17	putative cyclin	55	multi-drug resistance protein
18	putative protein	56	receptor protein kinase (TMK1), putative
19	putative protein	57	putative receptor-like protein kinase
20	unknown protein		
21	putative protein	58	putative pectate lyase
22	putative protein	59	putative protein kinase
23	hypothetical protein	60	putative peroxidase
24	unknown protein	61	cytochrome P450-like protein
25	hypothetical protein	62	putative beta-amylase
26	unknown protein	63	monosaccharide transporter STP3
27	unknown protein	64	Lycopersicon esculentum proteinase TMP, Pir2:T07617
28	unknown protein	65	putative receptor-like protein kinase
29	unknown protein		
30	putative protein	66	G-box-binding factor 1
31	putative protein	67	amino acid carrier, putative
32	putative protein	68	myb-related protein
33	unknown protein	69	No function assigned by TIGR
34	putative ribonuclease III	70	SNF1 like protein kinase
35	unknown protein	71	Cu/Zn superoxide dismutase-like protein
36	unknown protein	72	putative protein kinase
37	unknown protein	73	small nuclear ribonucleoprotein U1A
38	unknown protein		
39	unknown protein		
40	putative histidine kinase		

TABLE 1 (cont)

74	ras-like GTP-binding	101	dynein light chain like protein
protein		102	chaperonin CPN10
75	oleoyl-[acyl-carrier-protein]	103	putative bHLH transcription factor
	hydrolase-like protein	104	putative glyoxysomal malate
76	putative heat shock		dehydrogenase precursor
	transcription factor	105	ATP-dependent RNA helicase,
77	putative protein		putative
78	membrane-bound small	106	chlorophyll synthetase
	GTP-binding - like protein	107	similar to epoxide hydrolases
79	putative protein (fragment)	108	putative protein
80	indole-3-acetate beta-	109	unknown protein
	glucosyltransferase like	110	hypothetical protein
	protein	111	putative membrane transporter
81	HD-zip transcription factor	112	putative tyrosyl-tRNA synthetase
	(athb-8)	113	ARGININE/SERINE-RICH
82	putative cAMP-dependent		SPLICING FACTOR RSP31
	protein kinase	114	putative oxidoreductase
83	glucuronosyl transferase-	115	unknown protein
	like protein	116	linker histone protein, putative
84	putative leucine-rich repeat	117	hypothetical protein
	disease resistance protein	118	putative protein
85	98b like protein	119	putative mitochondrial carrier
86	putative receptor-like		protein
	protein kinase	120	putative transcription factor
87	IAA-Ala hydrolase (IAR3)	121	MYB-related protein
88	putative AP2 domain	122	myb-related transcription factor,
	transcription factor		putative
89	putative expansin	123	unknown protein
90	putative Ap2 domain	124	unknown protein
protein		125	putative glycine-rich protein
91	expansin (At-EXP1)	126	No function assigned by TIGR
92	cytochrome P450 - like	127	unknown protein
protein		128	unknown protein
93	putative ATP-dependent	129	unknown protein
	RNA helicase A	130	unknown protein
94	unknown protein	131	putative membrane channel protein
95	predicted protein	132	putative protein
96	putative glucosyltransferase	133	unknown protein
97	unknown protein	134	gamma glutamyl hydrolase,
98	putative xyloglucan-		putative
	specific glucanase	135	40S ribosomal protein S5
99	cysteine synthase	136	DnaJ-like protein
100	clathrin assembly protein	137	40S ribosomal protein S26
	AP19 homolog	138	putative WRKY-type DNA binding
			protein

TABLE 1 (cont)

139	putative protein	161	putative photomorphogenesis repressor protein
140	hypothetical protein	162	SNF1-like protein kinase (AKin11)
141	putative ubiquitin-conjugating enzyme	163	thioredoxin h
142	peptidylprolyl isomerase	164	thioredoxin
ROC1		165	Ca <sup>2+</sup> -dependent lipid-binding protein, putative
143	glyceraldehyde-3-phosphate dehydrogenase C subunit (GapC)	166	putative auxin-induced protein
144	No function assigned by	167	putative bZIP transcription factor
TIGR		168	hypothetical protein
145	putative protein	169	putative AVR9 elicitor response protein
146	putative thioredoxin	170	putative serine/threonine protein kinase
147	thioredoxin h, putative	171	bZIP transcription factor ATB2
148	thioredoxin-like	172	putative spliceosome associated protein
149	allene oxide synthase (emb/CAA73184.1)	173	3-hydroxyisobutyryl-coenzyme A hydrolase - like protein
150	anthranilate synthase component I-1 precursor (sp P32068)	174	putative protein
151	CELL DIVISION CONTROL PROTEIN 2 HOMOLOG A	175	putative Mutator-like transposase
152	protein kinase cdc2 homolog B	176	putative protein
153	ethylene responsive element binding factor 1 (frameshift 1)	177	unknown protein
154	ethylene responsive element binding factor 2 (ATERF2) (sp O80338)	178	putative protein
155	ethylene responsive element binding factor 5 (ATERF5) (sp O80341)	179	putative protein
156	glucose-6-phosphate dehydrogenase	180	putative galactinol synthase
157	photomorphogenesis repressor (COP1)	181	putative transcriptional regulator
158	unknown protein	182	nuclear matrix constituent protein 1 (NMCP1)-like
159	DNA (cytosine-5)-methyltransferase (DNA methyltransferase) (DNA metase) (sp P34881)	183	putative DNA-binding protein RAV2
160	PROLIFERA	184	No function assigned by TIGR
		185	basic blue protein, 5' partial
		186	unknown protein
		187	putative calcium-binding protein, calreticulin
		188	putative pyrophosphate-fructose-6-phosphate 1-phosphotransferase
		189	ribosomal protein L11, cytosolic
		190	putative dTDP-glucose 4-6-dehydratase
		191	40S ribosomal protein S20-like protein
		192	60S ribosomal protein L24

TABLE 1 (cont)

193	coatomer-like protein, epsilon subunit	223	putative SF16 protein (Helianthus annuus)
194	glycoprotein(EPI), putative	224	unknown protein
195	putative SPL1-related protein	225	thioredoxin
196	unknown protein	226	trehalose-6-phosphate phosphatase (AtTPPB)
197	putative transport protein SEC61 beta-subunit	227	chlorophyll a/b-binding protein
198	unknown protein	228	class IV chitinase (CHIV)
199	putative cytochrome P450	229	chalcone synthase (naringenin-chalcone synthase) (testa 4 protein) (sp P13114)
200	UTP-glucose glucosyltransferase - like protein	230	unknown protein
201	60S ribosomal protein L23	231	cinnamyl-alcohol dehydrogenase ELI3-2
202	40S ribosomal protein S17	232	farnesyl-pyrophosphate synthetase FPS2
203	40S ribosomal protein S26	233	phospholipid hydroperoxide glutathione peroxidase
204	protein translation factor Sui1 homolog, putative	234	heat shock transcription factor HSF4
205	unknown protein	235	heat shock protein 101
206	gamma glutamyl hydrolase, putative	236	17.6 kDa heat shock protein (AA 1-156)
207	dTDP-glucose 4,6-dehydratase, putative	237	heat shock protein 17.6A
208	extensin - like protein	238	heat-shock protein
209	unknown protein	239	HY5
210	protein phosphatase 2C - like protein	240	putative auxin-induced protein, IAA12
211	ubiquitin-like protein	241	early auxin-induced protein, IAA19
212	protein phosphatase 2C-like protein	242	auxin-inducible gene (IAA2)
213	unknown protein	243	putative protein
214	putative RING zinc finger	244	putative choline kinase
215	ankyrin protein	245	thymidylate kinase - like protein
216	unknown protein	246	CTP synthase like protein
217	putative rubisco subunit binding-protein alpha subunit	247	putative protein
218	putative acetone-cyanohydrin lyase	248	putative amidase
219	putative isoamylase	249	4-alpha-glucanotransferase
220	putative protein	250	hypothetical protein
221	HSP associated protein like	251	similar to auxin-induced protein
222	60S ribosomal protein L39	252	putative protein
	unknown protein	253	putative protein
		254	putative protein
		255	hyuC-like protein

TABLE 1 (cont)

256	putative tetracycline transporter protein	287	unknown protein
257	similar to early nodulins	288	putative esterase D
258	putative protein	289	predicted protein of unknown function
259	putative peptidyl-prolyl cis-trans isomerase	290	unknown protein
260	unknown protein	291	putative indole-3-glycerol phosphate synthase
261	unknown protein	292	isopentenyl pyrophosphate:dimethylallyl pyrophosphate isomerase
262	putative endochitinase	293	kinase associated protein phosphatase
263	putative ABC transporter	294	putative K <sup>+</sup> channel, beta subunit
264	No function assigned by TIGR	295	KNAT1 homeobox-like protein
265	CONSTANS-like B-box zinc finger protein	296	PSI type II chlorophyll a/b-binding protein, putative
266	unknown protein	297	transcription factor
267	unknown protein	298	putative WD-40 repeat protein, MSI2
268	putative mitochondrial processing peptidase alpha subunit	299	WD-40 repeat protein (MSI3)
269	putative pre-mRNA splicing factor	300	putative WD-40 repeat protein, MSI4
270	putative phosphatidylserine decarboxylase	301	unknown protein
271	unknown protein	302	hypothetical protein
272	unknown protein	303	putative protein
273	unknown protein	304	No function assigned by TIGR
274	putative casein kinase I	305	polyphosphoinositide binding protein, putative
275	unknown protein	306	hypothetical protein
276	60S ribosomal protein L23A	307	unknown protein
277	putative mitochondrial dicarboxylate carrier protein	308	chloroplast ribosomal L1 - like protein
278	enoyl-ACP reductase (enr-A)	309	cold-regulated protein cor15b precursor
279	putative isoamylase	310	cyanohydrin lyase like protein
280	formamidase - like protein	311	putative replication protein A1
281	reticuline oxidase - like protein	312	putative protein
282	unknown protein	313	possible apospory-associated like protein
283	putative transketolase precursor	314	DNA binding protein GT-1, putative
284	putative protein	315	AT-hook DNA-binding protein (AHP1)
285	unknown protein	316	putative phospholipase
286	unknown protein	317	chloroplast FtsH protease, putative

TABLE 1 (cont)

318	enoyl-CoA hydratase like protein	348	putative farnesylated protein
319	berberine bridge enzyme - like protein	349	unknown protein
320	putative sugar transporter	350	water stress-induced protein, putative
321	unknown protein	351	unknown protein
322	No function assigned by TIGR	352	unknown protein
323	hypothetical protein	353	PEROXISOMAL MEMBRANE PROTEIN PMP22
324	putative acidic ribosomal protein	354	putative peroxisomal membrane carrier protein
325	putative protein	355	putative protein
326	unknown protein	356	unknown protein
327	hypothetical protein	357	putative protein
328	putative protein	358	putative protein
329		359	argininosuccinate synthase -like protein
	dihydroxypolyprenyl	360	1-phosphatidylinositol-4,5-
	lbenzoate methyltransferase	360	bisphosphate phosphodiesterase
330	unknown protein	361	putative JUN kinase activator protein
331	myb-related protein	362	putative 60S ribosomal protein L35
332	No function assigned by TIGR	363	nucleoid DNA-binding protein cnd41 - like protein
333	putative protein	364	SigA binding protein
334	putative disease resistance response protein	365	hypothetical protein
335	hypothetical protein	366	putative protein kinase
336	No function assigned by TIGR	367	unknown protein
337	starch branching enzyme II	368	regulatory protein NPR1-like; transcription factor inhibitor I
338	No function assigned by TIGR		kappa B-like
339	putative enolase (2-phospho-D-glycerate hydroxylase)	369	putative protein
340	putative protein kinase	370	hypothetical protein
341	HD-Zip protein, putative	371	phosphoribosylanthranilate isomerase
342	putative protein kinase	372	phosphoribosylanthranilate isomerase
343	phenylalanyl-trna synthetase - like protein	373	sterol glucosyltransferase, putative
344	putative aconitase	374	putative gigantea protein
345	NAM(no apical meristem) protein, putative	375	putative MYB family transcription factor
346	unknown protein	376	hypothetical protein
347	putative	377	hypothetical protein
	phosphomannomutase	378	predicted protein
		379	cytochrome P450, putative

TABLE 1 (cont)

380	putative Na <sup>+</sup> dependent ileal bile acid transporter	416	chloroplast precursor (sp Q02166)
381	unknown protein	417	phytochrome C (sp P14714)
382	RING-H2 finger protein RHF1a		putative phytochrome-associated protein 3
383	putative protein	418	receptor serine/threonine kinase PR5K
384	unknown protein	419	Ran-binding protein (atranbp1a)
385	putative protein	420	small Ras-like GTP-binding protein (gb AAB58478.1)
386	putative auxin-regulated protein	421	sterol-C5-desaturase
387	hypothetical protein	422	tryptophan synthase beta chain 1 precursor (sp P14671)
388	unknown protein	423	thioredoxin f2 (gb AAD35004.1)
389	unknown protein	424	No function assigned by TIGR
390	putative protein	425	putative WRKY DNA-binding protein
391	putative protein	426	putative protein
392	unknown protein	427	unknown protein
393	histone H1	428	unknown protein
394	Argonaute (AGO1)-like protein	429	14-3-3 protein homolog RCI1 (pir S47969)
395	unknown protein	430	unknown protein
396	putative protein with C-terminal RING finger	431	putative CCCH-type zinc finger protein
397	unknown protein	432	PINHEAD (gb AAD40098.1); translation initiation factor
398	unknown protein	433	plasma membrane proton ATPase (PMA)
399	unknown protein	434	CHLOROPHYLL A-B BINDING PROTEIN 4 PRECURSOR
400	unknown protein		homolog
401	unknown protein	435	membrane related protein CP5, putative
402	putative copper amine oxidase	436	ABC transporter (AtMRP2)
403	unknown protein	437	putative embryo-abundant protein
404	unknown protein	438	putative anthocyanidin-3-glucoside rhamnosyltransferase
405	unknown protein	439	putative lipid transfer protein
406	putative protein	440	unknown protein
407	putative protein	441	unknown protein
408	unknown protein	442	galactinol synthase, putative
409	unknown protein	443	putative protein
410	putative protein	444	putative protein
411	putative protein	445	SCARECROW-like protein
412	unknown protein	446	unknown protein
413	serine/threonine kinase - like protein		
414	alcohol dehydrogenase, putative		
415	anthranilate phosphoribosyltransferase,		

TABLE 1 (cont)

447	unknown protein	476	phosphoenolpyruvate carboxylase (PPC)
448	unknown protein	477	chlorophyll a/b-binding protein - like
449	unknown protein	478	AtAGP4
450	asparagine--tRNA ligase	479	putative cryptochrome 2 apoprotein
451	putative protein	480	type 2 peroxiredoxin, putative
452	glutamate-1-semialdehyde 2,1-aminomutase 1 precursor (GSA 1) (glutamate-1-semialdehyde aminotransferase 1) (GSA-AT 1) (sp P42799)	481	Atpm24.1 glutathione S transferase
453	hypothetical protein	482	delta tonoplast integral protein (delta-TIP)
454	putative serine protease-like protein	483	20S proteasome subunit (PAA2)
455	No function assigned by TIGR	484	dormancy-associated protein, putative
456	unknown protein	485	putative cytidine deaminase
457	unknown protein	486	No function assigned by TIGR
458	gamma-adaptin, putative	487	putative phospholipase D-gamma
459	UDP rhamnose--anthocyanidin-3-glucoside rhamnosyltransferase - like protein	488	cell elongation protein, Dwarf1
460	carbonate dehydratase - like protein	489	germin-like protein
461	putative microtubule-associated protein	490	hevein-like protein precursor (PR-4)
462	putative ribophorin I	491	rac-like GTP binding protein (ARAC5)
463	putative zinc finger protein	492	phosphoprotein phosphatase, type 1 catalytic subunit
464	chloroplast FtsH protease, putative	493	ubiquitin-protein ligase UBC9
465	putative protein	494	xyloglucan endotransglycosylase-related protein XTR-7
466	unknown protein	495	cysteine synthase
467	putative LEA protein	496	putative villin 2
468	putative protein	497	glutathione S-transferase
469	putative protein	498	5-adenylsulfate reductase
470	unknown protein	499	arginine decarboxylase
471	putative purple acid phosphatase	500	ATHP2, putative
472	unknown protein	501	ornithine carbamoyltransferase precursor
473	putative protein	502	putative protein
474	unknown protein	503	putative protein
475	chlorophyll binding protein, putative	504	unknown protein
		505	putative protein
		506	putative protein
		507	unknown protein
		508	unknown protein
		509	unknown protein
		510	unknown protein
		511	hypothetical protein



TABLE 1 (cont)

512	putative protein	552	putative CCCH-type zinc finger protein
513	putative DnaJ protein	553	MAP kinase kinase 2
514	plastocyanin	554	ethylene-insensitive3-like1 (EIL1)
515	unknown protein	555	histidine transport protein (PTR2-B)
516	unknown protein	556	putative auxin-induced protein AUX2-11
517	unknown protein	557	hydroxyacylglutathione hydrolase cytoplasmic (glyoxalase II) (GLX II)
518	unknown protein	558	delta-8 sphingolipid desaturase
519	unknown protein	559	cellulose synthase catalytic subunit (Ath-A)
520	unknown protein	560	nitrate transporter (NTL1)
521	putative ATP-dependent RNA helicase	561	DNA-binding homeotic protein Athb-2
522	non-race specific disease resistance protein (NDR1)	562	hypothetical protein
523	hypothetical protein	563	aspartate aminotransferase
524	putative protein	564	4-coumarate:CoA ligase 1
525	putative protein	565	pyruvate dehydrogenase E1 beta subunit, putative
526	putative protein	566	nucleotide diphosphate kinase Ia (emb CAB58230.1)
527	copper transport protein	567	chloroplast Cpn21 protein
528	putative protein	568	ATP dependent copper transporter very-long-chain fatty acid
529	unknown protein	569	condensing enzyme (CUT1)
530	unknown protein	570	putative purine-rich single-stranded DNA-binding protein
531	unknown protein	571	serine/threonine protein phosphatase (type 2A)
532	putative protein kinase	572	isopentenyl diphosphate:dimethylallyl diphosphate isomerase (IPP2)
533	unknown protein	573	putative c2h2 zinc finger transcription factor
534	putative protein	574	putative 20S proteasome beta subunit PBC2
535	putative protein	575	nucleoside diphosphate kinase 3 (ndpk3)
536	hypothetical protein	576	ras-related small GTP-binding protein
537	putative protein	577	putative 4-coumarate:CoA ligase 2
538	putative AP2 domain transcription factor		
539	putative nitrilase		
540	putative protein		
541	putative tetrahydrofolate synthase		
542	heat-shock protein		
543	unknown protein		
544	unknown protein		
545	histone H4		
546	hypothetical protein		
547	unknown protein		
548	putative protein		
549	predicted protein		
550	putative dihydrolipoamide succinyltransferase		
551	actin 3		

TABLE 1 (cont)

578	transcription factor HBP-1b homolog (sp P43273)	609	photosystem II oxygen-evolving complex protein 3 - like
579	biotin synthase (Bio B)	610	sedoheptulose-bisphosphatase precursor
580	homeobox protein HAT22	611	glutathione S-transferase (GST6)
581	putative preprotein translocase SECY protein	612	geranylgeranyl reductase
582	carbamoylphosphate synthetase, putative	613	hypothetical protein
583	putative protein kinase, ADK1	614	hypothetical protein
584	putative nuclear DNA-binding protein G2p	615	phosphoribulokinase precursor
585	hypothetical protein	616	high mobility group protein (HMG1), putative
586	hypothetical protein	617	protease inhibitor II
587	unknown protein	618	protease inhibitor II
588	unknown protein	619	cytochrome P450 90A1 (sp Q42569)
589	molybdopterin synthase (CNX2)	620	unknown protein
590	putative ribosomal protein L6	621	heat shock protein 90
591	unknown protein	622	tubulin beta-9 chain
592	En/Spm-like transposon protein	623	putative ubiquitin carboxyl terminal hydrolase
593	putative protein	624	protein kinase
594	putative protein	625	DRE/CRT-binding protein DREB1C
595	unknown protein	626	histidyl-tRNA synthetase
596	hypothetical protein	627	splicing factor, putative
597	unknown protein	628	glutamyl-tRNA synthetase
598	unknown protein	629	putative RING zinc finger protein
599	putative lysosomal acid lipase	630	phytochelatin synthase (gb AAD41794.1)
600	unknown protein	631	putative C2H2-type zinc finger protein
601	unknown protein	632	putative ligand-gated ion channel protein
602	NiFS-like aminotransferase	633	putative ribosomal-protein S6 kinase (ATPK6)
603	actin 8	634	MOLYBDOPTERIN BIOSYNTHESIS CNX1 PROTEIN
604	hypothetical protein	635	temperature-sensitive omega-3 fatty acid desaturase, chloroplast precursor (sp P48622)
605	putative protein disulfide isomerase precursor	636	adenylosuccinate synthetase
608	adenosine nucleotide translocator	637	putative 14-3-3 protein
		638	putative cytochrome P450

TABLE 1 (cont)

639	putative two-component response regulator 3 protein	667	putative receptor-like protein kinase
640	putative RING-H2 zinc finger protein ATL6	668	putative disease resistance protein
641	No function assigned by TIGR	669	receptor-like protein kinase - like
642	small zinc finger-like protein	670	ubiquitin activating enzyme 2 (gb AAB37569.1)
643	hypothetical protein	671	No function assigned by TIGR
644	MAP kinase (ATMPK6)	672	putative receptor-like protein kinase
645	vacuolar ATP synthase, putative	673	K <sup>+</sup> transporter, AKT1
646	kinesin-like protein	674	shaggy-like kinase beta
647	serine/threonine-specific protein kinase NAK	675	heat shock protein 70
648	No function assigned by TIGR	676	plasma membrane intrinsic protein 1a
649	ACTIN 2/7 (sp P53492)	677	HSP90-like protein
650	phosphoglycerate kinase, putative	678	histone H1, putative
651	homeotic protein BEL1 homolog	679	unknown protein
652	proline iminopeptidase	680	dnaK-type molecular chaperone
653	pasticcino 1	681	hsc70.1 - like
654	serine/threonine protein kinase	682	gamma-glutamylcysteine synthetase
655	cytochrome P450 monooxygenase (CYP71B4)	683	peroxidase (ATP22a)
656	No function assigned by TIGR	684	putative serine carboxypeptidase precursor
657	putative GDSL-motif lipase/hydrolase	685	putative dioxygenase
658	putative protein	686	glucose transporter
659	unknown protein	687	NOI protein, nitrate-induced
660	hypothetical protein	688	putative protein
661	putative glycosylation enzyme	689	putative protein
662	No function assigned by TIGR	690	unknown protein
663	No function assigned by TIGR	691	putative photosystem I reaction center subunit II precursor
664	unknown protein	692	putative protein
665	putative ABC transporter	693	unknown protein
666	nifU-like protein	694	cobalamin biosynthesis protein
		695	adenine nucleotide translocase
		696	glutathione transferase, putative
		697	putative 60S ribosomal protein L21
		698	cytochrome P450 like protein
		699	cytochrome b245 beta chain
		700	homolog RbohAp108, putative
		701	RNA helicase, DRH1
			putative aldolase
			farnesyltransferase subunit A (FTA)

TABLE 1 (cont)

702	No function assigned by	725	putative protein
TIGR		726	NBD-like protein
703	putative putative sister- chromatide cohesion protein	(gb AAD20643.1)	
704	calcium-dependent protein kinase	727	AtHVA22c
705	serine/threonine protein phosphatase type 2A, putative	728	unknown protein
706	40S ribosomal protein S28 (sp P34789)	729	phytoene synthase (gb AAB65697.1)
707	RNA polymerase subunit	730	protein kinase (AME2/AFC1)
708	DNA-damage- repair/tolerance protein DRT102	731	hypothetical protein
709	putative C2H2-type zinc finger protein	732	cyclin-dependent protein kinase- like protein
710	putative adenosine phosphosulfate kinase	733	photosystem II stability/assembly factor HCF136 (sp O82660)
711	lipase	734	hypothetical protein
712	putative violaxanthin de- epoxidase precursor (U44133)	735	DNA binding-like protein
713	aromatic rich glycoprotein, putative	736	putative protein
714	putative fumarase	737	chorismate mutase
715	flavonol synthase (FLS) (sp Q96330)	738	putative LRR receptor protein kinase
716	response regulator 5, putative	739	putative chalcone synthase
717	sulfate transporter	740	putative protein kinase
718	putative floral homeotic protein, AGL9	741	replicase, putative
719	putative ethylene-inducible protein	742	putative cysteine proteinase
720	C-8,7 sterol isomerase	743	60S ribosomal protein L36
721	TCH4 protein (gb AAA92363.1)	744	unknown protein
722	hypothetical protein	745	CLC-b chloride channel protein
723	putative urease accessory protein	746	putative ribosomal protein S14
724	molybdopterin synthase sulphurylase (gb AAD18050.1)	747	histone H2B like protein (emb CAA69025.1)
		748	60S ribosomal protein L2
		749	60S ribosomal protein L15
			homolog
		750	ribosomal protein S27
		751	ribosomal protein
		752	60S ribosomal protein L12
		753	60S ribosomal protein L34
		754	putative ribosomal protein S10
		755	drought-induced protein like
		756	blue copper-binding protein, 15K (lamin)
		757	calmodulin-like protein
		758	putative protein
		759	No function assigned by TIGR
		760	alpha-mannosidase, putative
		761	uncoupling protein (ucp/PUMP)

TABLE 1 (cont)

762	homeodomain - like protein	786	calcium-dependent protein kinase
763	ribosomal protein S18,	(pir S71196)	
putative		787	phosphoinositide specific
764	similar to SOR1 from the		phospholipase C
	fungus Cercospora	788	similarity to S-domain receptor-
	nicotianae		like protein kinase, Zea mays
765	60S ribosomal protein L13,	789	mitosis-specific cyclin 1b
	BBC1 protein	790	4-coumarate:CoA ligase 3
766	50S ribosomal protein L24,	791	transcription factor IIB (TFIIB)
	chloroplast precursor	792	unknown protein
767	putative ribosomal protein	793	hypothetical protein
768	unknown protein	794	hypothetical protein
769	aspartate aminotransferase	795	sugar transporter like protein
	(AAT1)	796	putative trypsin inhibitor
770	potassium channel protein	797	unknown protein
	AtKC	798	putative multispanning membrane
771	unknown protein		protein
772	peroxisomal targeting	799	receptor-like kinase, putative
	signal type 2 receptor	800	putative inosine-5-monophosphate
773	putative protein		dehydrogenase
774	Ras-related GTP-binding	801	inosine-5'-monophosphate
	protein (ARA-4)		dehydrogenase, putative
775	S-receptor kinase homolog	802	amino acid permease 6
	2 precursor	(emb CAA65051.1)	
776	pathogenesis-related group	803	NADPH-ferrihemoprotein
	5 protein, putative		reductase (ATR2)
777	Nitrilase 4 (sp P46011)	804	putative WRKY-type DNA binding
778	biotin carboxyl carrier		protein
	protein of acetyl-CoA	805	putative ankyrin
	carboxylase precursor	806	putative hexose transporter
	(BCCP) (sp Q42533)	807	aquaporin/MIP - like protein
779	photosystem I reaction	808	Ser/Thr protein kinase isolog
	centre subunit psaN	809	pectate lyase like protein
	precursor (PSI-N)	810	putative 60S ribosomal protein L17
	(sp P49107)	811	putative protein
780	3(2),5-bisphosphate	812	unknown protein
	nucleotidase	813	phenylalanine ammonia-lyase
781	high affinity Ca <sup>2+</sup>	814	putative cytochrome P450
	antiporter		monooxygenase
782	putative cytoskeletal	815	ARR1 protein, putative
	protein	816	putative bHLH transcription factor
783	putative peroxidase	817	aminomethyltransferase-like
784	respiratory burst oxidase		precursor protein
	protein	818	purple acid phosphatase precursor
785	beta-glucosidase		

TABLE 1 (cont)

819	AP2 domain containing protein, putative	844	mercaptopyruvate sulfurtransferase, putative
820	ubiquitin-conjugating enzyme E2-21 kD 1 (ubiquitin-protein ligase 4) (ubiquitin carrier protein 4) (sp P42748)	845	putative thiosulfate sulfurtransferase
821	translation initiation factor	846	dihydrolipoamide S-acetyltransferase
822	putative VAMP-associated protein	847	auxin transport protein REH1, putative
823	spermidine synthase, putative	848	putative auxin transport protein
824	putative protein	849	apyrase (Atapy1)
825	unknown protein	850	root cap 1 (RCP1)
826	AtKAP alpha	851	hypothetical protein
827	glyceraldehyde-3-phosphate dehydrogenase, putative	852	putative protein
828	putative poly(A) binding protein	853	predicted protein of unknown function
829	alpha-tubulin, putative	854	hypothetical protein
830	serine/threonine-specific protein kinase ATPK64 (pir S20918)	855	hypothetical protein
831	putative aspartate-tRNA ligase	856	hypothetical protein
832	ras-related small GTP-binding protein RAB1c	857	putative aldehyde dehydrogenase
833	cycloartenol synthase	858	putative peroxidase
834	No function assigned by TIGR	859	UDP-glucose 4-epimerase - like protein
835	cytochrome P450	860	indole-3-acetate beta-glucosyltransferase like protein
836	GTPase AtRAB8	861	putative beta-1,3-glucanase
837	3-phosphoserine phosphatase	862	disease resistance protein-like
838	transcription factor CRC	863	putative respiratory burst oxidase protein B
839	nuclear cap-binding protein; CBP20 (gb AAD29697.1)	864	ubiquitin-conjugating enzyme UBC3
840	chloroplast membrane protein (ALBINO3)	865	cytoplasmic aconitate hydratase
841	biotin holocarboxylase synthetase	866	NADPH oxidoreductase, putative
842	expansin AtEx6	867	PROTEIN TRANSPORT
843	unknown protein		PROTEIN SEC61 GAMMA SUBUNIT -like
		868	putative protein
		869	unknown protein
		870	60S acidic ribosomal protein P2
		871	No function assigned by TIGR
		872	1,4-alpha-glucan branching enzyme protein soform SBE2.2 precursor
		873	calcium binding protein (CaBP-22)
		874	putative phosphoglucomutase

TABLE 1 (cont)

875	shaggy-like protein kinase etha (EC 2.7.1.-)	901	putative RAS superfamily GTP-binding protein
876	pyruvate decarboxylase (gb AAB16855.1)	902	disease resistance protein-like
877	hypothetical protein	903	protein kinase like protein
878	putative protein kinase	904	glucuronosyl transferase-like protein
879	putative protein kinase	905	putative homeodomain transcription factor
880	putative leucine aminopeptidase	906	putative flavonol reductase
881	probable cytochrome P450	907	putative protein
882	protein kinase 6-like protein	908	salt-tolerance protein
883	arginine methyltransferase (pam1)	909	40S ribosomal protein S30
884	MYB96 transcription factor-like protein	910	putative bZIP transcription factor
885	putative protein	911	putative protein
886	metal ion transporter	912	putative cinnamoyl CoA reductase
887	No function assigned by TIGR	913	unknown protein
888	flax rust resistance protein, putative	914	putative RNA-binding protein
889	fructose-2,6-bisphosphatase, putative	915	phosphatidylinositol synthase (PIS1)
890	exonuclease RRP41	916	unknown protein
891	squamosa promoter binding protein-like 2 (emb CAB56576.1)	917	hydroxyproline-rich glycoprotein homolog
892	putative squamosa-promoter binding protein	918	50S ribosomal protein L15, chloroplast precursor
893	O-acetylserine(thiol) lyase, putative	919	unknown protein
894	snoRNA	920	putative YME1 ATP-dependant protease
895	snoRNA	921	unknown protein
896	ferredoxin-NADP+ reductase	922	putative ribosomal protein L28
897	H+-transporting ATP synthase chain 9 - like protein	923	unknown protein
898	photosystem I subunit III precursor, putative	924	putative protein
899	photosystem I subunit VI precursor	925	protein ch-42 precursor, chloroplast
900	auxin-binding protein 1 precursor	926	protein serine/threonine kinase, putative
		927	beta-VPE
		928	putative vacuolar sorting receptor
		929	putative translation initiation factor IF-2
		930	predicted protein of unknown function
		931	putative protein
		932	hypothetical protein
		933	hypothetical protein
		934	phosphate transporter, putative

TABLE 1 (cont)

935	No function assigned by	961	unknown protein
TIGR		962	unknown protein
936	beta subunit of protein	963	unknown protein
	farnesyl transferase ERA1	964	myrosinase-associated protein,
937	putative glutamate		putative
	decarboxylase	965	hypothetical protein
938	putative indole-3-acetate	966	hypothetical protein
	beta-glucosyltransferase	967	No function assigned by TIGR
939	putative receptor-like	968	unknown protein
	protein kinase	969	hypothetical protein
940	UDP-galactose 4-	970	LAX1 / AUX1 -like permease
	epimerase-like protein	971	putative UDP-N-
941	putative proliferating cell		acetylglucosamine--dolichyl-
	nuclear antigen, PCNA		phosphate N-
942	ubiquitin conjugating		acetylglucosaminephosphotransfer
	enzyme E2 (UBC13)		ase
943	cyclophilin (CYP2)	972	chorismate mutase CM2
944	cystatin	973	inner mitochondrial membrane
(emb)CAA03929.1)			protein
945	putative alcohol	974	DEF (CLA1) protein
	dehydrogenase	975	decoy
946	acidic ribosomal protein p1	976	citrate synthase
947	glutathione transferase	977	myosin
	AtGST 10	978	40S ribosomal protein S19
(emb)CAA10457.1)		979	ripening-related protein - like
948	putative tropinone	980	putative signal peptidase I
reductase		981	methionyl-tRNA synthetase
949	ZIP4, a putative zinc		(AtcpMetRS)
	transporter	982	ribosomal protein precursor - like
950	unknown protein	983	50S ribosomal protein L21
951	putative protein		chloroplast precursor (CL21)
952	putative protein	984	putative MYB family transcription
953	putative C2H2-type zinc		factor
	finger protein	985	cyclophilin - like protein
954	putative RING zinc finger	986	hypothetical protein
	protein	987	naringenin 3-dioxygenase like
955	putative microtubule-		protein
	associated protein	988	WD-repeat protein -like protein
956	unknown protein	989	putative serine carboxypeptidase II
957	putative protein	990	prenyltransferase, putative
958	putative protein	991	putative ligand-gated ion channel
phosphatase-2c			protein
959	V-ATPase subunit G (vag2	992	clathrin adaptor medium chain
gene)			protein MUIB, putative
960	hypothetical protein	993	No function assigned by TIGR



TABLE 1 (cont)

994	putative Ta11-like non-LTR retroelement protein	1025	putative tropinone reductase
995	putative 3-isopropylmalate dehydrogenase	1026	signal response protein (GAI)
996	3-isopropylmalate dehydratase, small subunit	1027	putative steroid sulfotransferase
997	unknown protein	1028	hypothetical protein
998	unknown protein	1029	nucleic acid binding protein - like
999	unknown protein	1030	putative protein
1000	hypothetical protein	1031	blue copper binding protein
1001	putative protein	1032	farnesylated protein (ATFP6)
1002	No function assigned by TIGR	1033	unknown protein
1003	putative beta-glucosidase	1034	putative PCF2-like DNA binding protein
1004	putative pectate lyase A11	1035	teosinte branched1 - like protein
1005	putative beta-glucosidase	1036	putative protein
1006	HD-Zip protein	1037	unknown protein
1007	putative ubiquitin conjugating enzyme	1038	unknown protein
1008	homeobox-leucine zipper protein-like	1039	2-oxoglutarate dehydrogenase, E1 component
1009	cytochrome P450 like protein	1040	unknown protein
1010	putative cysteine proteinase inhibitor B (cystatin B)	1041	unknown protein
1011	ethylene response sensor (ERS)	1042	CCAAT-binding transcription factor subunit A(CBF-A)
1012	putative SWH1 protein	1043	hypothetical protein
1013	putative glutathione S-transferase	1044	putative growth regulator protein
1014	putative protein	1045	putative presenilin
1015	unknown protein	1046	putative expansin
1016	putative protein phosphatase 2C	1047	ribosomal - like protein
1017	dnaJ protein homolog atj3	1048	unknown protein
1018	ferredoxin	1049	unknown protein
1019	hypothetical protein	1050	putative protein
1020	putative sugar transport protein, ERD6	1051	putative protein
1021	putative DnaJ protein	1052	unknown protein
1022	putative AP2 domain transcription factor	1053	unknown protein
1023	putative protein	1054	unknown protein
1024	putative cyclin-dependent kinase regulatory subunit	1055	unknown protein
		1056	unknown protein
		1057	putative protein
		1058	putative protein
		1059	argininosuccinate lyase (AtArgH)
		1060	disease resistance protein homolog
		1061	aldehyde dehydrogenase like protein
		1062	GBF2, G-box binding factor
		1063	CDPK-related kinase
		1064	endo-1,4-beta-glucanase
		1065	putative serine protease

TABLE 1 (cont)

1066	serine/threonine-specific kinase lecRK1 precursor, lectin receptor-like	1091	putative ATP-dependent RNA helicase
1067	putative MAP kinase	1092	putative protein
1068	RNase L inhibitor-like protein	1093	putative HMG protein
1069	No function assigned by TIGR	1094	squalene monooxygenase 2 (squalene epoxidase 2) (SE 2) (sp O65403)
1070	AP2 domain transcription factor	1095	eukaryotic peptide chain release factor subunit 1, putative
1071	polygalacturonase isoenzyme 1 beta subunit, putative	1096	auxin-induced protein - like
1072	putative lipid transfer protein	1097	putative lipamide dehydrogenase
1073	putative protein kinase	1098	putative protein
1074	putative protein	1099	unknown protein
1075	ATP-dependent RNA helicase like protein	1100	putative oligopeptide transporter
1076	putative cyclic nucleotide-regulated ion channel protein	1101	putative translation elongation factor ts
1077	COP1 like protein	1102	putative CCAAT-binding transcription factor subunit
1078	putative peroxidase	1103	putative ABC transporter
1079	putative NAK-like ser/thr protein kinase	1104	putative superoxide-generating NADPH oxidase flavocytochrome
1080	putative cytochrome C	1105	aspartate kinase-homoserine dehydrogenase - like protein
1081	cytochrome c	1106	putative bHLH transcription factor
1082	putative serine carboxypeptidase II	1107	putative geranylgeranyl transferase type I beta subunit
1083	acyl-(acyl carrier protein) thioesterase	1108	putative ARP2/3 protein complex subunit p41
1084	DNA-binding factor, putative	1109	sulphite reductase
1085	MAP3K delta-1 protein kinase	1110	putative auxin-regulated protein
1086	AtMlo-h1-like protein	1111	transcription factor scarecrow-like 14, putative
1087	No function assigned by TIGR	1112	unknown protein
1088	putative expansin	1113	monooxygenase 2 (MO2)
1089	defender against cell death protein, putative	1114	putative amine oxidase
1090	glycolate oxidase - like protein	1115	zinc finger protein, putative
		1116	DNA-binding protein, putative
		1117	putative protein
		1118	putative protein
		1119	Avr9 elicitor response like protein
		1120	putative protein
		1121	hypothetical protein
		1122	putative nucleotide-sugar dehydratase
		1123	UFD1 like protein

TABLE 1 (cont)

1124	putative trans-prenyltransferase	1155	cytochrome c oxidoreductase like protein
1125	outward rectifying potassium channel KCO	1156	putative carboxymethylenebutenolidase
1126	unknown protein	1157	unknown protein
1127	putative pectinacetylsterase	1158	unknown protein
1128	putative protein	1159	unknown protein
1129	No function assigned by TIGR	1160	unknown protein
1130	unknown protein	1161	unknown protein
1131	unknown protein	1162	unknown protein
1132	unknown protein	1163	auxin-induced protein (IAA20)
1133	protein phosphatase homolog (PPH1)	1164	50S ribosomal protein L4
1134	unknown protein	1165	putative DNA topoisomerase III beta
1135	No function assigned by TIGR	1166	No function assigned by TIGR
1136	unknown protein	1167	isp4 like protein
1137	unknown protein	1168	putative protein kinase
1138	unknown protein	1169	hypothetical protein
1139	putative protein	1170	putative pyrophosphate--fructose-6-phosphate 1-phosphotransferase
1140	unknown protein	1171	putative protein
1141	putative ubiquinol--cytochrome-c reductase	1172	putative protein
1142	unknown protein	1173	putative protein
1143	contains similarity to high-glucose-regulated protein 8 GB:AAF08813 GI:6449083 from [Homo sapiens]	1174	unknown protein
1144	unknown protein	1175	unknown protein
1145	putative cis-Golgi SNARE protein	1176	putative protein
1146	unknown protein	1177	putative protein
1147	glutamate-1-semialdehyde aminotransferase	1178	unknown protein
1148	No function assigned by TIGR	1179	unknown protein
1149	hypothetical protein	1180	putative protein
1150	unknown protein	1181	brassinosteroid insensitive 1 gene (BR1)
1151	unknown protein	1182	putative receptor protein kinase
1152	unknown protein	1183	vacuolar-type H <sup>+</sup> -translocating inorganic pyrophosphatase
1153	scarecrow-like 3	1184	protein kinase - like protein
1154	putative proline-rich protein	1185	glycyl tRNA synthetase, putative
		1186	subtilisin proteinase - like
		1187	hypothetical protein
		1188	cytochrome P450-like protein
		1189	cytochrome p450 like protein
		1190	putative protein kinase
		1191	pectinesterase - like protein
		1192	putative receptor-like protein kinase

TABLE 1 (cont)

1193	peroxidase ATP17a -like protein	1219	putative AP2 domain transcription factor
1194	No function assigned by TIGR	1220	brassinosteroid receptor kinase, putative
1195	cellulose synthase catalytic subunit - like protein	1221	TINY-like protein
1196	RAS-related protein, RAB7	1222	glucose-6-phosphate isomerase
1197	putative aspartate aminotransferase	1223	putative protein
1198	cyclophilin	1224	putative NAM (no apical meristem)-like protein
1199	putative SF2/ASF splicing modulator, Srp30	1225	unknown protein
1200	putative cytochrome b5	1226	putative nucleotide-binding protein
1201	glutamyl-tRNA reductase, putative	1227	bZIP transcription factor (POSF21)
1202	putative MADS-box protein	1228	ubiquitin activating enzyme - like protein
1203	ammonium transport protein (AMT1)	1229	telomere repeat-binding protein
1204	No function assigned by TIGR	1230	unknown protein
1205	putative beta-ketoacyl-CoA synthase	1231	mevalonate kinase
1206	thaumatin-like protein	1232	putative protein
1207	putative methionine aminopeptidase	1233	hypothetical protein
1208	putative protein phosphatase 2C	1234	disease resistance RPP5 like protein
1209	kinase-like protein	1235	putative protein
1210	receptor-associated kinase isolog	1236	putative pectinesterase
1211	mitochondrial ribosomal protein S14	1237	Tig1 protein (emb/CAB45372.1)
1212	oleosin, 18.5K	1238	FUSCA PROTEIN FUS6
1213	chalcone isomerase	1239	NHE1 Na <sup>+</sup> /H <sup>+</sup> exchanger
1214	putative cyclin-dependent kinase regulatory subunit	1240	No function assigned by TIGR
1215	putative thaumatin-like protein	1241	Phospholipase like protein
1216	putative two-component response regulator protein	1242	unknown protein
1217	TATA binding protein-associated factor, putative	1243	unknown protein
1218	predicted protein of unknown function	1244	unknown protein
		1245	AUX1-like amino acid permease
		1246	unknown protein
		1247	putative C2H2-type zinc finger protein
		1248	putative protein
		1249	putative protein
		1250	putative glucosyltransferase
		1251	putative lipase
		1252	putative protein
		1253	putative thioredoxin
		1254	AIG2-like protein
		1255	short-chain alcohol dehydrogenase like protein
		1256	hypothetical protein

TABLE 1 (cont)

1257	putative protein	1287	No function assigned by TIGR
1258	putative protein	1288	serine/threonine protein kinase
1259	glutathione peroxidase - like protein		ATPK10
1260	putative protein	1289	putative lipase
1261	putative disease resistance response protein	1290	choline kinase GmCK2p -like protein
1262	putative protein	1291	putative sugar transport protein, ERD6
1263	senescence-associated protein (SAG29)	1292	MYB27 protein - like
1264	glycolate oxidase, putative	1293	DNA-binding protein, putative
1265	extensin - like protein	1294	similar to cold acclimation protein WCOR413 [Triticum aestivum]
1266	putative protein	1295	unknown protein
1267	unknown protein	1296	aquaporin (plasma membrane intrinsic protein 2B)
1268	putative disease resistance protein	1297	No function assigned by TIGR
1269	putative receptor-like protein kinase	1298	P-Protein - like protein
1270	putative receptor-like protein kinase	1299	No function assigned by TIGR
1271	basic chitinase	1300	putative cytochrome P450 monooxygenase
1272	putative pectin methylesterase	1301	putative cytochrome P450 monooxygenase
1273	peroxidase ATP N	1302	putative thioredoxin
1274	class 2 non-symbiotic hemoglobin	1303	stromal ascorbate peroxidase
1275	nitrate transporter	1304	ethylene responsive element binding factor-like protein (AtERF6)
1276	Ca <sup>2+</sup> /H <sup>+</sup> -exchanging protein-like	1305	auxin transport protein EIR1 (gb AAC39513.1)
1277	putative protein	1306	putative CONSTANS-like B-box zinc finger protein
1278	hydroxynitrile lyase like protein	1307	putative protein kinase
1279	putative AP2 domain transcription factor	1308	mitochondrial Lon protease homolog 1 precursor (sp O64948)
1280	pectin methylesterase, putative	1309	putative protein
1281	putative protein	1310	heme activated protein, putative
1282	beta-glucosidase-like protein	1311	putative cytochrome P450
1283	CCAAT box binding factor/ transcription factor Hap2a	1312	No function assigned by TIGR
1284	putative fibrillin	1313	putative lipase
1285	xyloglucan endo- transglycosylase	1314	putative protein
1286	putative 10kd chaperonin	1315	putative sugar transporter protein
		1316	putative sucrose transport protein, SUC2
		1317	putative protein
		1318	putative protein

TABLE 1 (cont)

1319	putative endochitinase	1351	unknown protein
1320	putative acetone- cyanohydrin lyase	1352	bZIP transcription factor - like protein
1321	putative protein	1353	Medicago nodulin N21-like protein
1322	calmodulin-like protein	1354	putative endo-1,4-beta glucanase
1323	hypothetical protein	1355	1-aminocyclopropane-1- carboxylate oxidase
1324	cysteine proteinase like protein	1356	putative anion exchange protein
1325	heat shock protein 17.6-II	1357	SRG1-like protein
1326	heat shock protein 18	1358	putative protein
1327	Arabidopsis mitochondrion- localized small heat shock protein (AtHSP23.6-mito)	1359	putative phi-1-like phosphate- induced protein
1328	unknown protein	1360	putative protein
1329	putative WRKY-type DNA binding protein	1361	putative embryo-abundant protein
1330	No function assigned by TIGR	1362	putative hydrolase
1331	hypothetical protein	1363	unknown protein
1332	putative integral membrane protein nodulin	1364	unknown protein
1333	putative protein	1365	hexose transporter - like protein
1334	unknown protein	1366	unknown protein
1335	3-isopropylmalate dehydratase, small subunit	1367	unknown protein
1336	unknown protein	1368	peptide transport - like protein
1337	putative homeodomain transcription factor	1369	unknown protein
1338	unknown protein	1370	putative peptide transporter
1339	putative protein	1371	disease resistance protein, putative
1340	peroxidase ATP19a	1372	cysteine protease component of protease-inhibitor complex
1341	putative Na <sup>+</sup> /H <sup>+</sup> - exchanging protein	1373	putative cytochrome P450
1342	putative auxin-regulated protein	1374	putative protein
1343	unknown protein	1375	hypothetical protein
1344	unknown protein	1376	unknown protein
1345	putative trehalose-6- phosphate synthase	1377	putative phosphoribosylaminoimidazolecar boxamide formyltransferase
1346	putative lectin	1378	putative protein
1347	Mlo protein-like	1379	HSP like protein
1348	unknown protein	1380	unknown protein
1349	ethylene response factor, putative	1381	unknown protein
1350	unknown protein	1382	putative cytochrome P450
		1383	similar to pectinesterase
		1384	putative glucosyltransferase
		1385	thaumatin-like protein
		1386	drought-inducible cysteine proteinase RD19A precursor
		1387	vegetative storage protein Vsp2
		1388	unknown protein

TABLE 1 (cont)

1389	unknown protein	1417	G-box binding bZIP transcription factor
1390	anthranilate N-benzoyltransferase - like protein	1418	putative protein
1391	delta-1-pyrroline 5-carboxylase synthetase (P5C1)	1419	putative protein
1392	glutathione S-conjugate transporting ATPase (AtMRP1)	1420	putative protein
1393	hypothetical protein	1421	ATFP4-like
1394	hypothetical protein	1422	unknown protein
1395	unknown protein	1423	unknown protein
1396	putative protein	1424	putative protein
1397	putative protein	1425	invertase inhibitor homolog (emb)CAA7335.1)
1398	No function assigned by TIGR	1426	unknown protein
1399	unknown protein	1427	unknown protein
1400	putative protein kinase	1428	putative cytochrome b5
1401	unknown protein	1429	putative protein
1402	hypothetical protein	1430	putative protein
1403	unknown protein	1431	putative protein
1404	putative calcium-binding EF-hand protein	1432	No function assigned by TIGR
1405	cinnamyl-alcohol dehydrogenase ELI3-1	1433	putative copper/zinc superoxide dismutase
1406	putative protein	1434	protein phosphatase ABI1
1407	unknown protein	1435	glutamate dehydrogenase 2
1408	senescence-associated protein sen1	1436	No function assigned by TIGR
1409	hypothetical protein	1437	low-temperature-induced protein 78 (sp)Q06738)
1410	putative cytochrome P450	1438	putative myo-inositol 1-phosphate synthase
1411	proline oxidase, mitochondrial precursor (osmotic stress-induced proline dehydrogenase)	1439	phosphate transporter (gb)AAB17265.1)
1412	putative response regulator 3	1440	4-hydroxyphenylpyruvate dioxygenase (HPD)
1413	hypothetical protein	1441	histone H1
1414	glutamine-dependent asparagine synthetase	1442	hypothetical protein
1415	lysine-ketoglutarate reductase/saccharopine	1443	No function assigned by TIGR
1416	En/Spm-like transposon protein	1444	neoxanthin cleavage enzyme-like protein
		1445	dehydration-induced protein RD22
		1446	zinc finger protein ZAT7
		1447	unknown protein
		1448	unknown protein
		1449	unknown protein
		1450	unknown protein
		1451	putative protein
		1452	putative protein
		1453	RNA helicase, putative

TABLE 1 (cont)

1454	putative glycine-rich protein	1483	unknown protein
1455	hypothetical protein	1484	cold and ABA inducible protein kin1
1456	putative protein	1485	gamma-VPE (vacuolar processing enzyme)
1457	peroxidase	1486	putative protein 1 photosystem II oxygen-evolving complex
1458	peroxidase ATP3a (emb/CAA67340.1)	1487	myrosinase-associated protein, putative
1459	metallothionein-like protein	1488	transcription factor ATMYB4
1460	endomembrane-associated protein	1489	H-protein promoter binding factor-2a
1461	ferritin 1 precursor	1490	ammonium transporter, putative
1462	dehydrin RAB18-like protein (sp P30185)	1491	putative zeta-carotene desaturase precursor
1463	HSR201 like protein	1492	high-affinity nitrate transporter NRT2
1464	light regulated protein, putative	1493	light induced protein like
1465	Dr4(protease inhibitor)	1494	putative AT-hook DNA-binding protein
1466	mitogen activated protein kinase kinase (nMAPKK)	1495	putative glycogenin
1467	glutathione S-transferase	1496	putative light repressible receptor protein kinase
1468	transcriptional activator CBF1/ CRT/CRE binding factor 1	1497	serine/threonine kinase - like protein
1469	homeobox-leucine zipper protein ATHB-12	1498	putative peroxidase
1470	amino acid permease I	1499	cytochrome P450 monooxygenase (CYP83A1)
1471	MAP kinase (ATMPK7)	1500	MYB-related transcription factor (CCA1)
1472	potassium channel protein AKT3	1501	Terminal flower1 (TFL1)
1473	cytochrome P450 monooxygenase (CYP91A2)	1502	sulfate transporter ATST1
1474	putative transport protein	1503	RING-H2 finger protein RHA3b
1475	putative protein	1504	lipoxygenase, putative
1476	hypothetical protein	1505	serine O-acetyltransferase (EC 2.3.1.30) Sat-52 (pir S71207)
1477	putative protein	1506	ferulate-5-hydroxylase (FAH1)
1478	hypothetical protein	1507	En/Spm-like transposon protein, putative
1479	receptor protein kinase-like protein	1508	calmodulin-binding - like protein
1480	serine/threonine protein kinase - like protein	1509	hypothetical protein
1481	putative auxin-regulated protein	1510	somatic embryogenesis receptor-like kinase -like protein
1482	amino acid transport protein AAP2	1511	putative gibberellin beta-hydroxylase



TABLE 1 (cont)

1512	putative pectinesterase	1542	60S acidic ribosomal protein P0
1513	putative protein	1543	putative protein
1514	unknown protein	1544	auxin-induced protein, putative
1515	ribosomal protein	1545	unknown protein
1516	low-temperature-induced 65 kD protein (sp Q04980)	1546	hypothetical protein
1517	putative glucosyltransferase	1547	protein phosphatase 2C ABI2 (PP2C) (sp O04719)
1518	peroxidase (emb CAA67551.1)	1548	peroxidase, prxr2
1519	ankyrin-like protein	1549	putative peroxidase ATP12a
1520	ribosomal protein S11 - like	1550	putative beta-amylase
1521	hypothetical protein	1551	putative acetone-cyanohydrin lyase
1522	glycoprotein (BPI), putative	1552	fatty acid elongase 3-ketoacyl-CoA synthase 1
1523	calnexin - like protein	1553	putative citrate synthase
1524	SRG1-like protein	1554	pEARLI 1-like protein
1525	ethylene response factor 1 (ERF1)	1555	putative MYB family transcription factor
1526	transcriptional activator CBF1-like protein	1556	putative transcription factor MYB28
1527	xyloglucan endo-1,4-beta- D-glucanase (XTR-6)	1557	RNA helicase-like protein
1528	putative cinnamyl alcohol dehydrogenase	1558	snoRNA
1529	gibberellin 3 beta- hydroxylase, putative	1559	putative protein kinase
1530	auxin response transcription factor 3 (ETTIN/ARF3)	1560	growth regulator like protein
1531	No function assigned by TIGR	1561	putative potassium transporter
1532	putative protein	1562	putative protein
1533	similar to avrRpt2-induced protein 1	1563	60S ribosomal protein L14
1534	unknown protein	1564	unknown protein
1535	hypothetical protein	1565	putative RING-H2 zinc finger protein
1536	putative protein kinase	1566	putative pollen surface protein
1537	respiratory burst oxidase - like protein	1567	unknown protein
1538	glucose-6- phosphate/phosphate- translocator precursor, putative	1568	unknown protein
1539	class 1 non-symbiotic hemoglobin (AHHB1)	1569	unknown protein
1540	endochitinase isolog	1570	putative Ca <sup>2+</sup> -ATPase
1541	putative cytochrome P450	1571	1-aminocyclopropane-1- carboxylate synthase -like protein
		1572	putative beta-glucosidase
		1573	transcription factor ZAP1
		1574	oligopeptide transporter, putative
		1575	putative protein
		1576	putative glucosyltransferase
		1577	putative serine/threonine kinase
		1578	squalene epoxidase - like protein
		1579	similar to 14KD proline-rich protein DC2.15 precursor

TABLE 1 (cont)

	(sp/P14009); similar to	1612	DnaJ-like protein
	ESTs emb[Z17709 and	1613	putative inositol polyphosphate-5-
	emb[Z47685		phosphatase
1580	unknown protein	1614	putative cytochrome P450
1581	unknown protein	1615	putative protein
1582	hypothetical protein	1616	unknown protein
1583	60S ribosomal protein L38	1617	putative protein
1584	flavin-containing	1618	hypothetical protein
	monooxygenase, putative	1619	putative protein
1585	remorin	1620	sucrose-UDP glucosyltransferase
1586	unknown protein	1621	glucose-6-phosphate 1-
1587	putative protein		dehydrogenase
1588	lipoxygenase	1622	unknown protein
1589	cold-regulated protein	1623	mitochondrial chaperonin (HSP60)
	COR6.6 (KIN2)	1624	sucrose transport protein SUC1
1590	Myb transcription factor	1625	putative protein disulfide isomerase
	homolog (ATR1)	1626	putative pollen-specific protein
1591	putative protein	1627	integral membrane protein,
1592	unknown protein		putative
1593	unknown protein	1628	rubredoxin, putative
1594	Ca <sup>2+</sup> -transporting ATPase	1629	putative protein
	- like protein	1630	disease resistance protein RPS4,
1595	protein phosphatase 2C		putative
	(AtP2C-HA)	1631	putative peptide/amino acid
1596	peroxidase ATP24a		transporter
1597	branched-chain alpha keto-	1632	peroxidase, putative
	acid dehydrogenase,	1633	ethylene receptor, putative (ETR2)
	putative	1634	protein phosphatase 2C (PP2C)
1598	putative beta-ketoacyl-CoA	1635	putative glutathione S-transferase
	synthase	1636	homeodomain transcription factor
1599	putative protein		(ATHB-7)
1600	putative beta-galactosidase	1637	putative nitrate transporter
1601	putative protein	1638	putative ribosomal protein L9,
1602	60S ribosomal protein L27		cytosolic
1603	putative annexin	1639	putative DNA-binding protein
1604	NAC domain protein,	1640	beta-1,3-glucanase-like protein
	putative	1641	putative zinc transporter
1605	unknown protein	1642	transcription factor TINY
1606	late embryogenesis	1643	putative aspartate kinase-
	abundant protein LEA like		homoserine dehydrogenase
1607	unknown protein	1644	ethylene reponse factor-like AP2
1608	putative protein		domain transcription factor
1609	dehydrin Xero2	1645	peptide transporter - like protein
1610	putative zinc finger protein	1646	trehalose-6-phosphate synthase like
1611	unknown protein		protein

TABLE 1 (cont)

1647	putative ribonuclease	1676	pathogenesis-related protein 1 precursor, 19.3K
1648	hypothetical protein	1677	R2R3-MYB transcription factor
1649	putative DNA-binding protein	1678	hypothetical protein
1650	nodulin-like protein	1679	putative chitinase
1651	trehalose-6-phosphate phosphatase - like protein	1680	Mlo protein, putative
1652	succinate dehydrogenase flavoprotein alpha subunit (emb)CAA05025.1)	1681	putative WRKY-type DNA binding protein
1653	unknown protein	1682	putative acyl-CoA synthetase
1654	stress related protein, putative	1683	putative pathogenesis-related protein
1655	putative chloroplast initiation factor 3	1684	putative chitinase
1656	putative protein	1685	germin precursor oxalate oxidase
1657	hypothetical protein	1686	endoxylglucan transferase, putative
1658	putative CCCH-type zinc finger protein	1687	putative protein
1659	similar to harpin-induced protein hin1 from tobacco	1688	putative cytochrome P450
1660	unknown protein	1689	similar to Mlo proteins from H. vulgare
1661	unknown protein	1690	putative tropinone reductase
1662	hypothetical protein	1691	extensin-like protein
1663	No function assigned by TIGR	1692	putative sarcosine oxidase
1664	putative protein	1693	putative protein
1665	putative glutathione S-transferase TSI-1	1694	hypothetical protein
1666	putative protein	1695	late embryogenesis-abundant protein, putative
1667	putative PTR2 family peptide transporter	1696	beta-carotene hydroxylase
1668	receptor kinase-like protein	1697	putative calcium binding protein
1669	putative sugar transport protein, ERD6	1698	unknown protein
1670	putative protein	1699	unknown protein
1671	nodulin-like protein	1700	predicted glycosyl transferase
1672	unknown protein	1701	hypothetical protein
1673	putative receptor-like protein kinase	1702	hypothetical protein
1674	glutathione-conjugate transporter AtMRP4	1703	hypothetical protein
1675	ascorbate oxidase-like protein	1704	putative protein
		1705	unknown protein
		1706	putative protein
		1707	putative protein
		1708	serine/threonine kinase - like protein
		1709	No function assigned by TIGR
		1710	putative pectinesterase
		1711	peroxidase like protein
		1712	No function assigned by TIGR

TABLE 1 (cont)

1713	phenylalanine ammonia lyase (PAL1)		Coenzyme A 3-O-methyltransferase
1714	peroxidase (emb CAA68212.1)	1740	disease resistance protein EDS1
1715	putative AMP deaminase	1741	putative protein kinase
1716	putative MYB family transcription factor	1742	Glutathione reductase, chloroplast precursor
1717	DNA-directed RNA polymerase II, third largest subunit	1743	putative heat shock protein
1718	nucleotide pyrophosphatase-like protein	1744	aspartate kinase
1719	putative peroxidase	1745	putative major intrinsic (channel) protein
1720	calcium sensor homolog (gb AAC26110.1)	1746	matrix metalloproteinase, putative
1721	putative GDSL-motif lipase/hydrolase	1747	putative GDSL-motif lipase/hydrolase
1722	putative nonspecific lipid-transfer protein	1748	putative protein
1723	acyl-carrier protein (ACP), putative	1749	DAG-like protein
1724	putative glycine dehydrogenase	1750	serine/threonine kinase-like protein
1725	AIG1	1751	formamidase - like protein
1726	ACC synthase (AtACS-6)	1752	CER2
1727	cyclin delta-3	1753	26S proteasome subunit 4
1728	putative RING zinc finger protein	1754	pectinesterase like protein
1729	aldose 1-epimerase - like protein	1755	putative disease resistance protein
1730	putative phospholipase	1756	putative RNA methyltransferase
1731	phosphoenolpyruvate carboxylase	1757	unknown protein
1732	putative galactinol synthase	1758	HOMEBOX PROTEIN
1733	unknown protein		KNOTTED-1 LIKE 4 (KNAT4)
1734	putative protein	1759	glycine-rich RNA-binding protein
1735	1-aminocyclopropane-1-carboxylate oxidase		AtGRP2 - like
1736	thioredoxin (clone GIF1) (pir S58118)	1760	putative acetylornithine transaminase
1737	trehalose-6-phosphate phosphatase	1761	putative Sec24-like COPII protein
1738	beta-1,3-glucanase 2 (BG2) (PR-2)	1762	putative berberine bridge enzyme
1739	putative S-adenosyl-L-methionine:trans-caffeoyl-	1763	putative GH3-like protein
		1764	putative ABC transporter
		1765	putative reticuline oxidase-like protein
		1766	pectate lyase - like protein
		1767	protein disulfide-isomerase-like protein
		1768	putative protein
		1769	putative membrane transporter
		1770	unknown protein
		1771	unknown protein
		1772	putative RING-H2 zinc finger protein

TABLE 1 (cont)

1773	unknown protein	1807	glycine-rich RNA binding protein
1774	unknown protein	7	
1775	unknown protein	1808	dehydrin, putative
1776	MADS-box protein	1809	putative endoxyloglucan
(AGL20)			glycosyltransferase
1777	amidophosphoribosyltransf	1810	glutamate decarboxylase 1 (GAD
	erase 2 precursor		1) (sp Q42521)
1778	putative dihydrodipicolinate	1811	delta 9 desaturase
synthase		1812	UDP-glucose glucosyltransferase
1779	hypothetical protein	1813	CARBONIC ANHYDRASE 2
1780	ABA-responsive protein -	1814	response reactor 2 (ATRR2)
like		1815	S-adenosyl-methionine-sterol-C-
1781	putative protein		methyltransferase, putative
1782	hypothetical protein	1816	putative DNA-binding protein
1783	DNA-binding protein-like		(RAV2-like)
1784	No function assigned by	1817	gamma glutamyl hydrolase,
TIGR			putative
1785	transcription factor,	1818	protein phosphatase - like
putative		1819	unknown protein
1786	nitrate reductase, putative	1820	unknown protein
1787	putative protein	1821	unknown protein
1788	putative protein	1822	copper transport protein - like
1789	putative protein		protein
1790	putative protein	1823	hypothetical protein
1791	unknown protein	1824	unknown protein
1792	unknown protein	1825	putative peptide methionine
1793	tryptophan synthase beta-		sulfoxide reductase
subunit (TSB2)		1826	putative obtusifolios 14-alpha
1794	hypothetical protein		demethylase
1795	putative protein	1827	glutamate dehydrogenase (EC
1796	putative DNA-binding		1.4.1.-) 1 (pir S71217)
protein		1828	unknown protein
1797	putative 40S ribosomal	1829	xyloglucan endo-1,4-beta-D-
	protein S10		glucanase precursor
1798	putative protein	1830	unknown protein
1799	putative cytochrome P450	1831	SNF1 related protein kinase
1800	putative protein		(ATSRPK1)
1801	putative protein	1832	putative protein
1802	putative glucosyltransferase	1833	putative chloroplast nucleoid DNA
1803	No function assigned by		binding protein
TIGR		1834	hypothetical protein
1804	putative protein	1835	putative protein
1805	putative protein	1836	putative thiamin biosynthesis
1806	unknown protein		protein
		1837	unknown protein

TABLE 1 (cont)

1838	unknown protein	1869	putative tyrosine aminotransferase
1839	putative RNA helicase	1870	thionin
1840	putative SF21 protein { <i>Helianthus annuus</i> }	1871	No function assigned by TIGR
1841	unknown protein	1872	APETALA2 protein
1842	NBS/LRR disease resistance protein, putative	1873	MADS-box protein (AGL3)
1843	hypothetical protein	1874	putative monooxygenase
1844	unknown protein	1875	ZFP3 zinc finger protein
1845	No function assigned by TIGR	1876	cell division protein FtsZ chloroplast homolog precursor (sp Q42545)
1846	glycine-rich protein (AtGRP2)	1877	calreticulin, putative
1847	No function assigned by TIGR	1878	phosphoserine aminotransferase
1848	putative protein	1879	12-oxophytodienoate-10,11- reductase
1849	putative glucosyltransferase	1880	putative bHLH transcription factor
1850	hypothetical protein	1881	pectin methylesterase (PMEU1), putative
1851	hypothetical protein	1882	DNA-binding protein
1852	putative protein	1883	camitine racemase like protein
1853	putative disease resistance protein	1884	putative protein
1854	thaumatin, putative	1885	endoxylglucan transferase (dbj BAA81669.1)
1855	putative proline-rich protein	1886	RNA1 RING zinc finger protein
1856	sterol-C-methyltransferase	1887	ammonium transporter
1857	superoxidase dismutase	1888	apyrase (gb AAF00612.1)
1858	TINY-like protein	1889	potassium uptake transporter - like protein
1859	calcium-dependent protein kinase, putative	1890	putative ABC transporter
1860	hypothetical protein	1891	potassium transporter-like protein
1861	putative protein kinase	1892	integral membrane protein, putative
1862	DNA-directed RNA polymerase (mitochondrial)	1893	putative protein
1863	putative DNA-binding protein	1894	pyruvate decarboxylase-1 (Pdc1)
1864	late embryogenesis abundant M17 protein	1895	putative malate oxidoreductase
1865	putative protein	1896	putative histone H2B
1866	delta-1-pyrroline-5- carboxylate synthetase	1897	snoRNA
1867	putative 60s ribosomal protein L10	1898	symbiosis-related like protein
1868	cytochrome P450 CYP86A1	1899	unknown protein
		1900	unknown protein
		1901	hypothetical protein
		1902	putative protein
		1903	copper-binding protein-like
		1904	putative protein
		1905	unknown protein
		1906	putative glyoxalase II

TABLE 1 (cont)

1907	No function assigned by	1936	serine/threonine protein kinase,
TIGR		putative	
1908	hypothetical protein	1937	potassium transporter - like protein
1909	flavanone 3-hydroxylase	1938	lactate dehydrogenase (LDH1)
(FH3)		1939	hypothetical protein
1910	putative laccase	1940	unknown protein
1911	putative protein kinase	1941	putative thaumatin
1912	myb-related protein, 33.3K (pir S71284)	1942	putative reticuline oxidase-like protein
1913	unknown protein	1943	uracil phosphoribosyltransferase, putative
1914	endo-xyloglucan transferase - like protein	1944	transcription factor, putative
1915	TMV resistance protein N - like	1945	unknown protein
1916	putative xyloglucan endotransglycosylase	1946	unknown protein
1917	unknown protein	1947	GATA transcription factor 4
1918	proline transporter 2	1948	unknown protein
1919	resistance protein, putative	1949	unknown protein
1920	actin, putative	1950	senescence-associated protein -like
1921	putative related to microbial divalent cation tolerance proteins	1951	putative pollen allergen
1922	unknown protein	1952	unknown protein
1923	putative glycosyl transferase	1953	putative protein
1924	unknown protein	1954	glycine-rich protein
1925	putative protein phosphatase 2C	1955	putative protein
1926	unknown protein	1956	3-methyladenine DNA glycosylase, putative
1927	serpin, putative	1957	endoplasmic reticulum-type calcium-transporting ATPase 4
1928	cinnamyl-alcohol dehydrogenase CAD1	1958	putative pectinesterase
1929	putative protein import receptor	1959	cytochrome P450-like protein
1930	unknown protein	1960	RNA-binding protein (cp33)
1931	unknown protein	1961	CONSTANS-like 1
1932	putative protein	1962	putative small heat shock protein
1933	putative CDP- diacylglycerol--glycerol-3- phosphate 3- phosphatidyltransferase	1963	hypothetical protein
1934	unknown protein	1964	unknown protein
1935	putative LRR receptor-like protein kinase	1965	cytochrome P450 - like protein
		1966	cysteine proteinase inhibitor like protein
		1967	nicotianamine synthase (dbj BAA74589.1)
		1968	copper amine oxidase like protein (fragment2)
		1969	putative SCARECROW gene regulator
		1970	unknown protein
		1971	unknown protein

TABLE 1 (cont)

1972	putative alanine acetyl transferase	2001	auxin response factor 1
1973	unknown protein	2002	pathogenesis-related protein 1 precursor, 18.9K
1974	unknown protein	2003	hypothetical protein
1975	unknown protein	2004	unknown protein
1976	putative extensin	2005	zinc finger protein Zat12
1977	putative protein kinase	2006	unknown protein
1978	putative protein kinase	2007	unknown protein
1979	NADPH-dependent codeinone reductase, putative	2008	cyclin, putative
1980	peroxidase	2009	2-dehydro-3-deoxyphosphoheptonate aldolase
1981	putative cytochrome P450	2010	glutathione synthetase gsh2
1982	No function assigned by TIGR	2011	heat shock protein 17
1983	putative zinc-finger protein (B-box zinc finger domain)	2012	putative Na <sup>+</sup> -dependent inorganic phosphate cotransporter
1984	putative tyrosine aminotransferase	2013	No function assigned by TIGR
1985	hypothetical protein	2014	unknown protein
1986	DNA binding protein	2015	putative protein
1987	putative fatty acid elongase	2016	similar to RING-H2 finger protein RHC1a GB: AAC69854
1988	bZIP transcription factor - like protein		GL3790583 from [Arabidopsis thaliana]
1989	xyloglucan fucosyltransferase, putative	2017	calcium-binding protein - like
1990	unknown protein	2018	putative protein
1991	unknown protein	2019	putative aldehyde dehydrogenase
1992	putative protein	2020	auxin-responsive GH3 - like protein
1993	myb factor, putative	2021	putative protein
1994	Myb-family transcription factor, putative	2022	Phosphoglycerate dehydrogenase - like protein
1995	putative fructose bisphosphate aldolase	2023	unknown protein
1996	myrosinase-associated protein, putative	2024	unknown protein
1997	cytochrome P450 like protein	2025	PSI type III chlorophyll a/b-binding protein, putative
1998	similar to SOR1 from the fungus Cercospora nicotianae	2026	putative protein
1999	similar to embryo-abundant protein GB: L47672 GI: 1350530 from [Picea glauca]	2027	putative protein
2000	alcohol dehydrogenase	2028	glutaredoxin, putative
		2029	hypothetical protein
		2030	No function assigned by TIGR
		2031	putative protein
		2032	jasmonate inducible protein, putative
		2033	putative polygalacturonase isoenzyme 1 beta subunit
		2034	putative small heat shock protein



TABLE 1 (cont)

2035	unknown protein	2068	putative chlorophyll A-B binding protein
2036	putative disease resistance protein	2069	Lhcb3 chlorophyll a/b binding protein (gb AAD28773.1)
2037	putative protein	2070	luminal binding protein (dbj BAA13948.1)
2038	ethylene-responsive element binding factor, putative	2071	hydroxypyruvate reductase (HPR)
2039	putative protein	2072	epoxide hydrolase (ATsEH)
2040	Pollen-specific protein precursor like	2073	putative protein (fragment)
2041	putative protein	2074	unknown protein
2042	unknown protein	2075	hypothetical protein
2043	EF-Hand containing protein-like	2076	putative glucosyl transferase
2044	unknown protein	2077	putative glucosyl transferase
2045	putative calcium-transporting ATPase	2078	putative 3-methylcrotonyl-CoA carboxylase
2046	antifungal protein-like (PDF1.2)	2079	putative peroxidase
2047	pathogenesis-related PR-1-like protein	2080	acyl-CoA oxidase (gb AAC13497.1)
2048	similar to Mlo proteins from H. vulgare	2081	alternative oxidase 1a precursor
2049	putative steroid sulfotransferase	2082	putative transcription factor (MYB4)
2050	trehalase - like protein	2083	serine acetyltransferase
2051	thioredoxin f1	2084	ATP-sulfurylase
2052	unknown protein	2085	calreticulin (crt1)
2053	alanine-glyoxylate aminotransferase	2086	putative prohibitin 2
2054	integral membrane protein, putative	2087	putative monodehydroascorbate reductase
2055	hypothetical protein	2088	branched-chain alpha-keto acid decarboxylase E1 beta subunit
2056	unknown protein	2089	cytokinin oxidase - like protein
2057	hypothetical protein	2090	putative receptor-like protein kinase
2058	unknown protein	2091	unknown protein
2059	unknown protein	2092	hypothetical protein
2060	unknown protein	2093	No function assigned by TIGR
2061	drought-induced-19-like 1	2094	putative APG protein
2062	unknown protein	2095	glutathione S-transferase, putative
2063	putative protein	2096	phytochrome-associated protein 1 (PAP1)
2064	putative protein	2097	amidophosphoribosyltransferase
2065	AIG2-like protein	2098	nonphototropic hypocotyl 1
2066	Lhca2 protein	2099	3-keto-acyl-CoA thiolase 2 (gb AAC17877.1)
2067	phytoeyanin	2100	pEARL1
		2101	glutathione reductase, cytosolic

TABLE 1 (cont)

2102	putative protein	2128	putative protein disulfide-isomerase
2103	putative protein	2129	unknown protein
2104	putative aldehyde oxidase	2130	beta-1,3-glucanase class I precursor
2105	probable photosystem I chain XI precursor	2131	homeobox-leucine zipper protein HAT5 (HD-ZIP protein 5) (HD-ZIP protein ATHB-1)
2106	photosystem II polypeptide, putative	2132	putative cyclic nucleotide-regulated ion channel protein
2107	photosystem II reaction center 6.1KD protein	2133	P II nitrogen sensing protein GLB I
2108	33 kDa polypeptide of oxygen-evolving complex (OEC) in photosystem II (emb)CAA75629.1	2134	H-protein promoter binding factor-1 (gb)AAC24592.1)
2109	60S ribosomal protein	2135	GAST1-like protein
L11B		2136	cytochrome P450 GA3
2110	extA (emb)CAA47807.1)	2137	putative protein
2111	zinc finger protein OBP4 - like	2138	Myb-related transcription factor-like protein
2112	sterol delta7 reductase	2139	putative phloem-specific lectin
2113	putative RAS-related protein, RAB11C	2140	protein kinase - like protein
2114	glucosyltransferase like protein	2141	unknown protein
2115	zinc finger protein (PMZ), putative	2142	SCARECROW transcriptional regulator-like
2116	6,7-dimethyl-8-ribityllumazine synthase precursor	2143	unknown protein
2117	putative protein	2144	unknown protein
2118	osmotin precursor	2145	putative protein
2119	No function assigned by TIGR	2146	calnexin homolog
2120	ferredoxin precursor isolog	2147	PP1/PP2A phosphatases
2121	GH3 like protein		pleiotropic regulator PRL2
2122	non-specific lipid transfer protein	2148	xyloglucan endotransglycosylase, putative
2123	homeodomain transcription factor (HAT9)	2149	putative calmodulin
2124	putative cytochrome P450 monooxygenase	2150	spermine synthase (ACL5)
2125	putative protein kinase	2151	snoRNA
2126	putative protein	2152	photosystem I subunit V precursor, putative
2127	glyceraldehyde-3-phosphate dehydrogenase	2153	putative potassium transporter
		2154	Homeodomain - like protein
		2155	putative protein
		2156	unknown protein
		2157	CALMODULIN-RELATED PROTEIN 2, TOUCH-INDUCED (TCH2)
		2158	putative protein phosphatase 2C

TABLE 1 (cont)

2159	monosaccharide transport protein, STP4	2187	defender against cell death protein
2160	hypothetical protein	2188	AP2 domain containing protein, putative
2161	unknown protein	2189	actin depolymerizing factor - like protein
2162	hypothetical protein	2190	putative calcium-dependent protein kinase (U90439)
2163	putative protein kinase	2191	phosphoribosylanthranilate transferase, putative
2164	putative serine/threonine protein kinase	2192	oligopeptide transporter, putative
2165	jasmonate inducible protein, putative	2193	calmodulin-like protein
2166	similar to several small proteins (~100 aa) that are induced by heat, auxin, ethylene and wounding such as Phaseolus aureus indole-3-acetic acid induced protein ARG (SW:32292)	2194	putative protease inhibitor
2167	unknown protein	2195	MAP kinase
2168	MYB-like protein	2196	DNA binding protein MybSt1, putative
2169	putative protein kinase	2197	putative protein
2170	unknown protein	2198	putative protein
2171	CLC-d chloride channel protein	2199	unknown protein
2172	cytochrome P450-like protein	2200	unknown protein
2173	putative glutathione S-transferase	2201	unknown protein
2174	putative mandelonitrile lyase	2202	putative protein
2175	hypothetical protein	2203	unknown protein
2176	putative trypsin inhibitor	2204	unknown protein
2177	male sterility 2-like protein (emb CAA68191.1)	2205	hypothetical protein
2178	unknown protein	2206	uncharacterized protein
2179	unknown protein	2207	putative protein
2180	putative protein	2208	hypothetical protein
2181	putative peroxidase	2209	peroxidase (emb CAA66967.1)
2182	putative thromboxane-A synthase	2210	putative flavonol 3-O-glucosyltransferase
2183	putative cytochrome P450	2211	putative flavonol 3-O-glucosyltransferase
2184	peroxidase ATP21a	2212	putative protein
2185	unknown protein	2213	glycerol-3-phosphate acyltransferase
2186	putative glutathione S-transferase	2214	putative beta-1,3-glucanase
		2215	putative ethylene response element binding protein (EREBP)
		2216	putative CONSTANS-like B-box zinc finger protein
		2217	putative protein
		2218	unknown protein
		2219	putative trehalose-6-phosphate phosphatase (AtTPPA)
		2220	putative protein

TABLE 1 (cont)

2221	putative protein	2251	lysine and histidine specific transporter, putative
2222	unknown protein	2252	putative protein
2223	unknown protein	2253	putative protein
2224	unknown protein	2254	putative sugar transporter protein
2225	hypothetical protein	2255	12S cruciferin seed storage protein
2226	putative metal-binding protein	2256	putative auxin-induced protein, IAA17/AXR3-1
2227	putative phosphoribosylglycinamide synthetase	2257	putative cyclin D
2228	unknown protein	2258	farnesyl diphosphate synthase precursor (gb AAB49290.1)
2229	putative protein	2259	putative potassium transport protein (TRH1)
2230	unknown protein	2260	putative NPK1-related MAP kinase
2231	unknown protein	2261	putative protein
2232	putative beta-galactosidase	2262	putative ABC transporter
2233	putative protein kinase	2263	putative DNA-directed RNA polymerase subunit
2234	putative protein	2264	putative small nuclear ribonucleoprotein E
2235	putative protein phosphatase 2C	2265	unknown protein
2236	putative growth regulator protein	2266	reticuline oxidase - like protein
2237	putative ABC transporter	2267	putative 1-aminocyclopropane-1-carboxylate oxidase
2238	chloride channel (emb CAA70310.1)	2268	similar to Mlo proteins from H. vulgare
2239	adrenodoxin - like protein	2269	long-chain-fatty-acid--CoA ligase-like protein
2240	NAM (no apical meristem)-like protein	2270	putative protein
2241	putative transcription factor MYB41	2271	chromatin remodelling complex ATPase chain ISWI -like protein
2242	Myb DNA binding protein - like	2272	hypothetical protein
2243	AtMYB84	2273	latex-abundant protein, putative
2244	photosystem II type I chlorophyll a/b binding protein	2274	N-acetylornithine deacetylase-like protein, fragment
2245	putative aspartic proteinase	2275	putative DNA-binding protein
2246	jasmonate inducible protein, putative	2276	putative anthranilate N-hydroxycinnamoyl/benzoyltransferase
2247	putative protein	2277	putative DNA binding protein
2248	No function assigned by TIGR	2278	cytochrome P450 - like protein
2249	putative phosphatidylserine synthase	2279	putative DNA-binding protein
2250	putative nicotianamine synthase	2280	putative peptide transporter
		2281	putative reticuline oxidase-like protein

TABLE 1 (cont)

2282	thioredoxin, putative	2313	putative protein kinase
2283	nodulin-like protein	2314	indoleacetic acid (IAA)-inducible gene (IAA7)
2284	UDP-galactose transporter - like protein	2315	ATP-dependent Clp protease regulatory subunit CLPX
2285	putative fibrillin	2316	DNA-binding protein RAV1
2286	unknown protein	2317	putative protein
2287	unknown protein	2318	hypothetical protein
2288	unknown protein	2319	unknown protein
2289	hypothetical protein	2320	unknown protein
2290	glyceraldehyde 3-phosphate dehydrogenase A subunit (GapA)	2321	putative protein
2291	predicted protein of unknown function	2322	putative thioredoxin reductase
2292	putative protein	2323	unknown protein
2293	putative protein	2324	putative lectin
2294	myb-like protein	2325	No function assigned by TIGR
2295	hypothetical protein	2326	beta-fructosidase
2296	putative U5 small nuclear ribonucleoprotein, an RNA helicase	2327	chlorophyll a/b-binding protein CP29
2297	unknown protein	2328	photosystem I subunit PSI-E - like protein
2298	cinnamyl alcohol dehydrogenase - like protein	2329	peroxidase ATP8a
2299	hypothetical protein similar to extensin-like protein	2330	putative fructose biphosphate aldolase
2300	unknown protein	2331	zinc finger protein ATZF1, putative
2301	putative chlorophyll a/b binding protein	2332	DegP protease precursor
2302	probable plasma membrane intrinsic protein 1c	2333	transcription factor-like protein
2303	hexokinase (ATHKK2)	2334	calcium-dependent protein kinase
2304	calcium-dependent protein kinase	2335	hypothetical protein
2305	5'-adenylylphosphosulfate reductase, putative	2336	putative protein
2306	Erd1 protein precursor (spIP42762)	2337	glucose-1-phosphate adenylyltransferase (APL3)
2307	putative protein	2338	No function assigned by TIGR
2308	putative protein	2339	putative Eukaryotic initiation factor 4A
2309	unknown protein	2340	No function assigned by TIGR
2310	BCS1 protein-like protein	2341	unknown protein
2311	putative protein	2342	beta tubulin 1, putative
2312	putative protein	2343	one helix protein (OHP)
		2344	No function assigned by TIGR
		2345	zinc finger protein 5, ZFP5
		2346	putative MYB family transcription factor
		2347	putative amino acid transporter protein

TABLE 1 (cont)

2348	putative potassium transporter	2374	putative PHD-type zinc finger protein
2349	protein kinase (AFC2)	2375	nuclear RNA binding protein A-like protein
2350	putative protein	2376	unknown protein
2351	No function assigned by TIGR	2377	unknown protein
2352	putative ubiquitin-conjugating enzyme E2	2378	unknown protein
2353	unknown protein	2379	putative amino-cyclopropane-carboxylic acid oxidase (ACC oxidase)
2354	cytochrome P450 monooxygenase (CYP71B3)	2380	hypothetical protein
2355	putative myrosinase-binding protein	2381	indole-3-acetate beta-glucosyltransferase like protein
2356	putative vacuolar sorting receptor	2382	predicted protein
2357	uridine diphosphate glucose epimerase	2383	unknown protein
2358	shaggy related protein kinase, ASK-GAMMA	2384	No function assigned by TIGR
2359	ankyrin repeat protein EMB506	2385	putative photosystem I reaction center subunit IV
2360	putative beta-alanine-pyruvate aminotransferase	2386	putative homeodomain transcription factor
2361	putative alcohol dehydrogenase	2387	putative purple acid phosphatase precursor
2362	putative receptor-like protein kinase	2388	No function assigned by TIGR
2363	unknown protein	2389	nitrate reductase 1 (NR1)
2364	putative methylmalonate semi-aldehyde dehydrogenase	2390	putative casein kinase II beta subunit
2365	hypothetical protein	2391	pEARLI 1-like protein
2366	unknown protein	2392	putative protein
2367	peroxidase ATP13a	2393	No function assigned by TIGR
2368	putative glutathione peroxidase	2394	unknown protein
2369	squamosa promoter binding protein-like 7	2395	putative cell wall-plasma membrane disconnecting CLCT protein (AIR1A)
2370	photosystem II core complex protein, putative	2396	unknown protein
2371	snoRNA	2397	scarecrow-like 11 - like
2372	photosystem I subunit X precursor	2398	putative anthocyanidin synthase
2373	MYB transcription factor (Atmyb2)	2399	putative AP2 domain transcription factor
		2400	caffeoyl-CoA O-methyltransferase - like protein
		2401	unknown protein
		2402	putative protein kinase
		2403	cytochrome P450 -like protein
		2404	putative MADS-box protein ANR1
		2405	putative glutathione S-transferase

TABLE 1 (cont)

2406	hypothetical protein	2437	putative protein
2407	similar to gibberellin-regulated proteins	2438	unknown protein
2408	unknown protein	2439	unknown protein
2409	putative sensory transduction histidine kinase	2440	putative protein
2410	similar to late embryogenesis abundant proteins	2441	No function assigned by TIGR
2411	unknown protein	2442	MADS-box protein AGL14
2412	putative protein	2443	No function assigned by TIGR
2413	putative ATP-dependent RNA helicase	2444	peptidylprolyl isomerase
2414	putative protein	2445	putative s-adenosylmethionine synthetase
2415	putative sucrose synthetase	2446	peroxidase
2416	beta-fructofuranosidase 1	2447	ferrochelatase-I
2417	putative indole-3-acetate beta-glucosyltransferase	2448	putative eukaryotic initiation factor 4, eIF4
2418	hypothetical protein	2449	drought-inducible cysteine proteinase RD21A precursor -like protein
2419	DNA-directed RNA polymerase II, third largest subunit	2450	unknown protein
2420	putative transcription factor	2451	unknown protein
2421	homeobox-leucine zipper protein ATHB-5 (HD-zip protein ATHB-5) (sp P46667)	2452	No function assigned by TIGR
2422	putative ftsH chloroplast protease	2453	No function assigned by TIGR
2423	replication protein A1 - like	2454	salt-inducible like protein
2424	hypothetical protein	2455	glucose-6-phosphate 1-dehydrogenase
2425	unknown protein	2456	3-hydroxy-3-methylglutaryl CoA reductase (AA 1-592)
2426	unknown protein	2457	hypothetical protein
2427	putative methionine aminopeptidase	2458	putative protein
2428	unknown protein	2459	putative putative 60S ribosomal protein L17
2429	fatty acid elongase - like protein (cer2-like)	2460	putative inorganic pyrophosphatase
2430	unknown protein	2461	putative gamma-glutamyltransferase
2431	putative disease resistance response protein	2462	heat shock transcription factor - like protein
2432	putative protein	2463	mitochondrial chaperonin hsp60
2433	unknown protein	2464	unknown protein
2434	putative protein	2465	putative zinc finger protein identical to T10M13.22
2435	putative protein	2466	putative uridylyl transferase
2436	unknown protein	2467	nodulin-like protein
		2468	putative B-box zinc finger protein
		2469	No function assigned by TIGR
		2470	putative metalloproteinase

TABLE 1 (cont)

2471	putative cellular apoptosis susceptibility protein	2504	unknown protein
2472	hypothetical protein	2505	unknown protein
2473	hypothetical protein	2506	60S ribosomal protein L10A
2474	scarecrow-like 13 (SCL13)	2507	putative protein
2475	putative nucleoside triphosphatase	2508	receptor protein kinase (IRK1), putative
2476	unknown protein	2509	putative nematode-resistance protein
2477	No function assigned by TIGR	2510	tubulin alpha-5 chain-like protein
2478	hypothetical protein	2511	putative DNA-binding protein
2479	putative phospholipase	2512	unknown protein
2480	putative snRNP protein	2513	putative RGA1, gibberellin response modulation protein
2481	putative protein	2514	non phototropic hypocotyl 1-like
2482	putative lipase	2515	RING-H2 finger protein RHA1b
2483	putative nonsense-mediated mRNA decay protein	2516	putative myb-protein
2484	No function assigned by TIGR	2517	hydroperoxide lyase (HPOL) like protein
2485	protochlorophyllide reductase precursor	2518	serine/threonine-protein kinase, PK7
2486	No function assigned by TIGR	2519	putative vacuolar proton-ATPase subunit
2487	trehalose-6-phosphate synthase, putative	2520	putative polygalacturonase
2488	unknown protein	2521	putative ribosomal protein L8
2489	germin-like protein	2522	putative adenylate kinase
2490	plastid protein	2523	germin-like protein (GLP10)
2491	putative protein	2524	putative chlorophyll a/b binding protein
2492	hypothetical protein	2525	chloroplast single subunit DNA-dependent RNA polymerase
2493	unknown protein	2526	putative protein
2494	unknown protein	2527	hypothetical protein
2495	histone deacetylase-like protein	2528	hypothetical protein
2496	unknown protein	2529	b-keto acyl reductase, putative
2497	unknown protein	2530	cellulose synthase catalytic subunit
2498	putative protein	2531	putative 1-aminocyclopropane-1-carboxylate oxidase
2499	putative protein	2532	S-linalool synthase, putative
2500	No function assigned by TIGR	2533	phosphoribosyl-ATP pyrophosphohydrolase (At-IE)
2501	putative zinc transporter	2534	disease resistance RPP5 like protein (fragment)
2502	unknown protein	2535	putative protein
2503	putative ribosomal-protein S6 kinase (ATPK19)	2536	beta-galactosidase like protein



TABLE 1 (cont)

2537	putative translation initiation factor eIF-2, gamma subunit	2566	unknown protein
2538	ankyrin like protein	2567	unknown protein
2539	histone H2A- like protein	2568	unknown protein
2540	putative protein	2569	serine/threonine kinase - like protein
2541	salt-tolerance zinc finger protein	2570	peroxidase (emb CAA66960.1)
2542	unknown protein	2571	putative protein
2543	putative protein	2572	hypothetical protein
2544	fructose-bisphosphate aldolase	2573	glycine-rich protein 2 (GRP2)
2545	peroxidase (emb CAA66964.1)	2574	unknown protein
2546	patatin-like protein	2575	berberine bridge enzyme-like protein
2547	salt-inducible protein homolog	2576	unknown protein
2548	hypothetical protein	2577	putative WD-repeat protein
2549	xyloglucan endo-transglycosylase-like protein	2578	serine/threonine kinase - like protein
2550	trihelix DNA-binding protein (GT2)	2579	serine /threonine kinase - like protein
2551	ubiquitin-conjugating enzyme 16, putative	2580	Cu2+-transporting ATPase-like protein
2552	homeobox protein	2581	translation initiation factor eIF4E
2553	envelope Ca2+-ATPase	2582	O-methyltransferase - like protein
2554	snap25a	2583	translation initiation factor eIF3 - like protein
2555	putative annexin	2584	No function assigned by TIGR
2556	putative protein	2585	unknown protein
2557	homeodomain transcription factor (ATHB-14)	2586	hypothetical protein
2558	heat shock protein, putative	2587	unknown protein
2559	peroxidase ATP23a	2588	unknown protein
2560	p68 RNA helicase, putative	2589	glycine-rich protein like
2561	potassium transporter, putative	2590	putative disease resistance protein
2562	putative eukaryotic translation initiation factor 2 alpha subunit, eIF2	2591	putative Na+/Ca2+ antiporter
2563	hypothetical protein	2592	putative hydroxymethylglutaryl-CoA lyase
2564	carnitine racemase like protein	2593	putative phosphoribosylaminoimidazole carboxylase
2565	No function assigned by TIGR	2594	SAR DNA-binding protein - like
		2595	response regulator, putative
		2596	fibrillin precursor-like protein
		2597	beta-ketoacyl-CoA synthase (FIDDLEHEAD)
		2598	lectin like protein
		2599	No function assigned by TIGR

TABLE 1 (cont)

2600	acidic endochitinase (dbj BAA21861.1)	2629	unknown protein
2601	unknown protein	2630	unknown protein
2602	hypothetical protein	2631	unknown protein
2603	predicted OR23 protein of unknown function	2632	nucleosome assembly protein I-like protein
2604	putative protein	2633	membrane channel like protein
2605	hypothetical protein	2634	anthocyanin2, putative
2606	glycerol-3-phosphate dehydrogenase	2635	TWIN SISTER OF FT (TSF)
2607	hypothetical protein	2636	putative myb-related transcription factor
2608	tat-binding protein, putative	2637	hypothetical protein
2609	putative protein	2638	putative RING zinc finger protein
2610	putative trehalose-6- phosphate phosphatase	2639	amino acid transport protein AAT1
2611	hypothetical protein	2640	putative protein
2612	putative flavonol 3-O- glucosyltransferase	2641	putative protein
2613	60S ribosomal protein L30	2642	xanthine dehydrogenase
2614	putative auxin-induced protein	2643	xanthine dehydrogenase - like protein
2615	putative nonspecific lipid- transfer protein precursor	2644	receptor protein kinase (IRK1), putative
2616	AtRer1A	2645	dehydrin-like protein
2617	putative aquaporin (tonoplast intrinsic protein gamma)	2646	unknown protein
2618	hypothetical protein	2647	aldehyde dehydrogenase homolog, putative
2619	putative alanine acetyl transferase	2648	Ran binding protein (AtRanBP1b)
2620	putative NADP-dependent glyceraldehyde-3- phosphate dehydrogenase	2649	putative squamosa-promoter binding protein
2621	putative DNA binding protein	2650	putative protein
2622	putative cystathionine gamma-synthase	2651	kinesin like protein
2623	unknown protein	2652	putative cellulose synthase
2624	malate oxidoreductase (malic enzyme)	2653	calmodulin (cam2)
2625	unknown protein	2654	fibrillarlin - like protein
2626	cyclic nucleotide-gated cation channel	2655	putative transmembrane protein G5p
2627	glyoxalase II, putative	2656	putative peroxidase
2628	putative trypsin inhibitor	2657	putative SNF1-related protein kinase
		2658	glutathione S-transferase, putative
		2659	unknown protein
		2660	hypothetical protein
		2661	putative protein
		2662	phosphatidylinositol-4-phosphate 5-kinase isolog
		2663	putative tyrosine decarboxylase
		2664	unknown protein

TABLE 1 (cont)

2665	SGP1 monomeric G-protein (emb CAB54517.1)	2691	putative pyrophosphate-dependent phosphofructokinase alpha subunit
2666	putative serine carboxypeptidase II	2692	putative flavonol glucosyltransferase
2667	putative L5 ribosomal protein	2693	peroxidase ATP20a (emb CAA67338.1)
2668	putative glucosyltransferase	2694	TOPP8 serine/threonine protein
2669	flavonoid 3,5-hydroxylase like protein	2695	phosphatase type one auxin regulated protein IAA18, putative
2670	putative protein	2696	putative WRKY-type DNA binding protein
2671	putative protein	2697	putative glucan synthase
2672	putative Fe(II)ascorbate oxidase	2698	squalene monooxygenase
2673	putative anthocyanin 5- aromatic acyltransferase	2699	putative proline-rich protein
2674	casein kinase I	2700	G2484-1 protein
2675	putative 2,3- bisphosphoglycerate- independent phosphoglycerate mutase	2701	heat shock protein 70 like protein
2676	putative glutathione S- transferase TSI-1	2702	unknown protein
2677	ATP-dependent RNA helicase	2703	unknown protein
2678	putative cytochrome P450		
2679	putative WD-40 repeat protein		
2680	No function assigned by TIGR		
2681	No function assigned by TIGR		
2682	putative protein		
2683	putative extensin		
2684	nodulin-26 - like protein		
2685	RNA helicase (emb CAA09212.1)		
2686	predicted protein of unknown function		
2687	putative berberine bridge enzyme		
2688	thioredoxin, putative		
2689	putative serine carboxypeptidase I		
2690	cytochrome P450-like protein		

TABLE 2

## ABIOTIC STRESS RESPONSIVE GENE REGULATORY SEQUENCES

SEQ ID NO:	REGULATORY REGION	SEQ ID NO:	REGULATORY REGION	SEQ ID NO:	REGULATORY REGION
1	2704	51	2753	101	2802
2	2705	52	2754	102	2803
3	2706	53	2755	103	2804
4	2707	54	2756	104	2805
5	2708	55	2757	105	2806
6	2709	56	2758	106	2807
7	2710	57	2759	107	2808
8	2711	58	2760	108	2809
9	2712	59	2761	109	2810
10	2713	60	2762	110	2811
11	2714	61	2763	111	2812
12	2715	62	2764	112	2813
13	2716	63	2765	113	2814
14	2717	64	2766	114	2815
15	2718	65	2767	115	2816
16	2719	66	2768	116	2817
17	2720	67	2769	117	2818
18	2721	68	2770	118	2819
19	2722	69	NONE	119	2820
20	2723	70	2771	120	2821
21	2724	71	2772	121	2822
22	2725	72	2773	122	2823
23	2726	73	2774	123	2824
24	2727	74	2775	124	2825
25	2728	75	2776	125	2826
26	2729	76	2777	126	2827
27	2730	77	2778	127	2828
28	2731	78	2779	128	2829
29	2732	79	2780	129	2830
30	2733	80	2781	130	2831
31	2734	81	2782	131	2832
32	2735	82	2783	132	2833
33	2736	83	2784	133	2834
34	2737	84	2785	134	2835
35	2738	85	2786	135	2836
36	2739	86	2787	136	2837
37	2740	87	2788	137	2838
38	2741	88	2789	138	2839
39	2742	89	2790	139	2840
40	2743	90	2791	140	2841
41	2744	91	2792	141	2842
42	2745	92	2793	142	2843
43	NONE	93	2794	143	2844
44	2746	94	2795	144	NONE
45	2747	95	2796	145	2845
46	2748	96	2797	146	2846
47	2749	97	2798	147	2847
48	2750	98	2799	148	2848
49	2751	99	2800	149	2849
50	2752	100	2801	150	2850

TABLE 2 (cont)

151	2851	205	2905	259	2959
152	2852	206	2906	260	2960
153	2853	207	2907	261	2961
154	2854	208	2908	262	2962
155	2855	209	2909	263	2963
156	2856	210	2910	264	2964
157	2857	211	2911	265	2965
158	2858	212	2912	266	2966
159	2859	213	2913	267	2967
160	2860	214	2914	268	2968
161	2861	215	2915	269	2969
162	2862	216	2916	270	2970
163	2863	217	2917	271	2971
164	2864	218	2918	272	2972
165	2865	219	2919	273	2973
166	2866	220	2920	274	2974
167	2867	221	2921	275	2975
168	2868	222	2922	276	2976
169	2869	223	2923	277	2977
170	2870	224	2924	278	2978
171	2871	225	2925	279	2979
172	2872	226	2926	280	2980
173	2873	227	2927	281	2981
174	2874	228	2928	282	2982
175	2875	229	2929	283	2983
176	2876	230	2930	284	2984
177	2877	231	2931	285	2985
178	2878	232	2932	286	2986
179	2879	233	2933	287	2987
180	2880	234	2934	288	2988
181	2881	235	2935	289	2989
182	2882	236	2936	290	2990
183	2883	237	2937	291	2991
184	2884	238	2938	292	2992
185	2885	239	2939	293	2993
186	2886	240	2940	294	2994
187	2887	241	2941	295	2995
188	2888	242	2942	296	2996
189	2889	243	2943	297	2997
190	2890	244	2944	298	2998
191	2891	245	2945	299	2999
192	2892	246	2946	300	3000
193	2893	247	2947	301	3001
194	2894	248	2948	302	3002
195	2895	249	2949	303	3003
196	2896	250	2950	304	NONE
197	2897	251	2951	305	3004
198	2898	252	2952	306	3005
199	2899	253	2953	307	3006
200	2900	254	2954	308	3007
201	2901	255	2955	309	3008
202	2902	256	2956	310	3009
203	2903	257	2957	311	3010
204	2904	258	2958	312	3011

TABLE 2 (cont)

313	3012	367	3066	421	3120
314	3013	368	3067	422	3121
315	3014	369	3068	423	3122
316	3015	370	3069	424	3123
317	3016	371	3070	425	3124
318	3017	372	3071	426	3125
319	3018	373	3072	427	3126
320	3019	374	3073	428	3127
321	3020	375	3074	429	3128
322	3021	376	3075	430	3129
323	3022	377	3076	431	3130
324	3023	378	3077	432	3131
325	3024	379	3078	433	3132
326	3025	380	3079	434	3133
327	3026	381	3080	435	3134
328	3027	382	3081	436	3135
329	3028	383	3082	437	3136
330	3029	384	3083	438	3137
331	3030	385	3084	439	3138
332	3031	386	3085	440	3139
333	3032	387	3086	441	3140
334	3033	388	3087	442	3141
335	3034	389	3088	443	3142
336	3035	390	3089	444	3143
337	3036	391	3090	445	3144
338	3037	392	3091	446	3145
339	3038	393	3092	447	3146
340	3039	394	3093	448	3147
341	3040	395	3094	449	3148
342	3041	396	3095	450	3149
343	3042	397	3096	451	3150
344	3043	398	3097	452	3151
345	3044	399	3098	453	3152
346	3045	400	3099	454	3153
347	3046	401	3100	455	3154
348	3047	402	3101	456	3155
349	3048	403	3102	457	3156
350	3049	404	3103	458	3157
351	3050	405	3104	459	3158
352	3051	406	3105	460	3159
353	3052	407	3106	461	3160
354	3053	408	3107	462	3161
355	3054	409	3108	463	3162
356	3055	410	3109	464	3163
357	3056	411	3110	465	3164
358	3057	412	3111	466	3165
359	3058	413	3112	467	3166
360	3059	414	3113	468	3167
361	3060	415	3114	469	3168
362	3061	416	3115	470	3169
363	3062	417	3116	471	3170
364	3063	418	3117	472	3171
365	3064	419	3118	473	3172
366	3065	420	3119	474	3173

TABLE 2 (cont)

475	3174	529	3228	583	3282
476	3175	530	3229	584	3283
477	3176	531	3230	585	3284
478	3177	532	3231	586	3285
479	3178	533	3232	587	3286
480	3179	534	3233	588	3287
481	3180	535	3234	589	3288
482	3181	536	3235	590	3289
483	3182	537	3236	591	3290
484	3183	538	3237	592	3291
485	3184	539	3238	593	3292
486	3185	540	3239	594	3293
487	3186	541	3240	595	3294
488	3187	542	3241	596	3295
489	3188	543	3242	597	3296
490	3189	544	3243	598	3297
491	3190	545	3244	599	3298
492	3191	546	3245	600	3299
493	3192	547	3246	601	3300
494	3193	548	3247	602	3301
495	3194	549	3248	603	3302
496	3195	550	3249	604	3303
497	3196	551	3250	605	3304
498	3197	552	3251	606	3305
499	3198	553	3252	607	3306
500	3199	554	3253	608	3307
501	3200	555	3254	609	3308
502	3201	556	3255	610	3309
503	3202	557	3256	611	3310
504	3203	558	3257	612	3311
505	3204	559	3258	613	3312
506	3205	560	3259	614	3313
507	3206	561	3260	615	3314
508	3207	562	3261	616	3315
509	3208	563	3262	617	3316
510	3209	564	3263	618	3317
511	3210	565	3264	619	3318
512	3211	566	3265	620	3319
513	3212	567	3266	621	3320
514	3213	568	3267	622	3321
515	3214	569	3268	623	3322
516	3215	570	3269	624	3323
517	3216	571	3270	625	3324
518	3217	572	3271	626	3325
519	3218	573	3272	627	3326
520	3219	574	3273	628	3327
521	3220	575	3274	629	3328
522	3221	576	3275	630	3329
523	3222	577	3276	631	3330
524	3223	578	3277	632	3331
525	3224	579	3278	633	3332
526	3225	580	3279	634	3333
527	3226	581	3280	635	3334
528	3227	582	3281	636	3335

TABLE 2 (cont)

637	3336	691	3390	745	3444
638	3337	692	3391	746	3445
639	3338	693	3392	747	3446
640	3339	694	3393	748	3447
641	3340	695	3394	749	3448
642	3341	696	3395	750	3449
643	3342	697	3396	751	3450
644	3343	698	3397	752	3451
645	3344	699	3398	753	3452
646	3345	700	3399	754	3453
647	3346	701	3400	755	3454
648	3347	702	3401	756	3455
649	3348	703	3402	757	3456
650	3349	704	3403	758	3457
651	3350	705	3404	759	3458
652	3351	706	3405	760	3459
653	3352	707	3406	761	3460
654	3353	708	3407	762	3461
655	3354	709	3408	763	3462
656	3355	710	3409	764	3463
657	3356	711	3410	765	3464
658	3357	712	3411	766	3465
659	3358	713	3412	767	3466
660	3359	714	3413	768	3467
661	3360	715	3414	769	3468
662	3361	716	3415	770	3469
663	3362	717	3416	771	3470
664	3363	718	3417	772	3471
665	3364	719	3418	773	3472
666	3365	720	3419	774	3473
667	3366	721	3420	775	3474
668	3367	722	3421	776	3475
669	3368	723	3422	777	3476
670	3369	724	3423	778	3477
671	3370	725	3424	779	3478
672	3371	726	3425	780	3479
673	3372	727	3426	781	3480
674	3373	728	3427	782	3481
675	3374	729	3428	783	3482
676	3375	730	3429	784	3483
677	3376	731	3430	785	3484
678	3377	732	3431	786	3485
679	3378	733	3432	787	3486
680	3379	734	3433	788	3487
681	3380	735	3434	789	3488
682	3381	736	3435	790	3489
683	3382	737	3436	791	3490
684	3383	738	3437	792	3491
685	3384	739	3438	793	3492
686	3385	740	3439	794	3493
687	3386	741	3440	795	3494
688	3387	742	3441	796	3495
689	3388	743	3442	797	3496
690	3389	744	3443	798	3497



TABLE 2 (cont)

799	3498	853	3552	907	3603
800	3499	854	3553	908	3604
801	3500	855	3554	909	3605
802	3501	856	3555	910	3606
803	3502	857	3556	911	3607
804	3503	858	3557	912	3608
805	3504	859	3558	913	3609
806	3505	860	3559	914	3610
807	3506	861	3560	915	3611
808	3507	862	3561	916	3612
809	3508	863	3562	917	3613
810	3509	864	3563	918	3614
811	3510	865	3564	919	3615
812	3511	866	3565	920	3616
813	3512	867	3566	921	3617
814	3513	868	3567	922	3618
815	3514	869	3568	923	3619
816	3515	870	3569	924	3620
817	3516	871	3570	925	3621
818	3517	872	3571	926	3622
819	3518	873	3572	927	3623
820	3519	874	3573	928	3624
821	3520	875	3574	929	3625
822	3521	876	3575	930	3626
823	3522	877	3576	931	3627
824	3523	878	3577	932	3628
825	3524	879	3578	933	3629
826	3525	880	3579	934	3630
827	3526	881	3580	935	NONE
828	3527	882	3581	936	3631
829	3528	883	3582	937	3632
830	3529	884	3583	938	3633
831	3530	885	3584	939	3634
832	3531	886	3585	940	3635
833	3532	887	NONE	941	3636
834	3533	888	3586	942	3637
835	3534	889	3587	943	3638
836	3535	890	3588	944	3639
837	3536	891	3589	945	3640
838	3537	892	3590	946	3641
839	3538	893	3591	947	3642
840	3539	894	NONE	948	3643
841	3540	895	NONE	949	3644
842	3541	896	3592	950	3645
843	3542	897	3593	951	3646
844	3543	898	3594	952	3647
845	3544	899	3595	953	3648
846	3545	900	3596	954	3649
847	3546	901	3597	955	3650
848	3547	902	3598	956	3651
849	3548	903	3599	957	3652
850	3549	904	3600	958	3653
851	3550	905	3601	959	3654
852	3551	906	3602	960	3655

TABLE 2 (cont)

961	3656	1015	3710	1069	3764
962	3657	1016	3711	1070	3765
963	3658	1017	3712	1071	3766
964	3659	1018	3713	1072	3767
965	3660	1019	3714	1073	3768
966	3661	1020	3715	1074	3769
967	3662	1021	3716	1075	3770
968	3663	1022	3717	1076	3771
969	3664	1023	3718	1077	3772
970	3665	1024	3719	1078	3773
971	3666	1025	3720	1079	3774
972	3667	1026	3721	1080	3775
973	3668	1027	3722	1081	3776
974	3669	1028	3723	1082	3777
975	3670	1029	3724	1083	3778
976	3671	1030	3725	1084	3779
977	3672	1031	3726	1085	3780
978	3673	1032	3727	1086	3781
979	3674	1033	3728	1087	NONE
980	3675	1034	3729	1088	3782
981	3676	1035	3730	1089	3783
982	3677	1036	3731	1090	3784
983	3678	1037	3732	1091	3785
984	3679	1038	3733	1092	3786
985	3680	1039	3734	1093	3787
986	3681	1040	3735	1094	3788
987	3682	1041	3736	1095	3789
988	3683	1042	3737	1096	3790
989	3684	1043	3738	1097	3791
990	3685	1044	3739	1098	3792
991	3686	1045	3740	1099	3793
992	3687	1046	3741	1100	3794
993	3688	1047	3742	1101	3795
994	3689	1048	3743	1102	3796
995	3690	1049	3744	1103	3797
996	3691	1050	3745	1104	3798
997	3692	1051	3746	1105	3799
998	3693	1052	3747	1106	3800
999	3694	1053	3748	1107	3801
1000	3695	1054	3749	1108	3802
1001	3696	1055	3750	1109	3803
1002	3697	1056	3751	1110	3804
1003	3698	1057	3752	1111	3805
1004	3699	1058	3753	1112	3806
1005	3700	1059	3754	1113	3807
1006	3701	1060	3755	1114	3808
1007	3702	1061	3756	1115	3809
1008	3703	1062	3757	1116	3810
1009	3704	1063	3758	1117	3811
1010	3705	1064	3759	1118	3812
1011	3706	1065	3760	1119	3813
1012	3707	1066	3761	1120	3814
1013	3708	1067	3762	1121	3815
1014	3709	1068	3763	1122	3816

TABLE 2 (cont)

1123	3817	1177	3871	1231	3925
1124	3818	1178	3872	1232	3926
1125	3819	1179	3873	1233	3927
1126	3820	1180	3874	1234	3928
1127	3821	1181	3875	1235	3929
1128	3822	1182	3876	1236	3930
1129	3823	1183	3877	1237	3931
1130	3824	1184	3878	1238	3932
1131	3825	1185	3879	1239	3933
1132	3826	1186	3880	1240	3934
1133	3827	1187	3881	1241	3935
1134	3828	1188	3882	1242	3936
1135	3829	1189	3883	1243	3937
1136	3830	1190	3884	1244	3938
1137	3831	1191	3885	1245	3939
1138	3832	1192	3886	1246	3940
1139	3833	1193	3887	1247	3941
1140	3834	1194	3888	1248	3942
1141	3835	1195	3889	1249	3943
1142	3836	1196	3890	1250	3944
1143	3837	1197	3891	1251	3945
1144	3838	1198	3892	1252	3946
1145	3839	1199	3893	1253	3947
1146	3840	1200	3894	1254	3948
1147	3841	1201	3895	1255	3949
1148	3842	1202	3896	1256	3950
1149	3843	1203	3897	1257	3951
1150	3844	1204	3898	1258	3952
1151	3845	1205	3899	1259	3953
1152	3846	1206	3900	1260	3954
1153	3847	1207	3901	1261	3955
1154	3848	1208	3902	1262	3956
1155	3849	1209	3903	1263	3957
1156	3850	1210	3904	1264	3958
1157	3851	1211	3905	1265	3959
1158	3852	1212	3906	1266	3960
1159	3853	1213	3907	1267	3961
1160	3854	1214	3908	1268	3962
1161	3855	1215	3909	1269	3963
1162	3856	1216	3910	1270	3964
1163	3857	1217	3911	1271	3965
1164	3858	1218	3912	1272	3966
1165	3859	1219	3913	1273	3967
1166	3860	1220	3914	1274	3968
1167	3861	1221	3915	1275	3969
1168	3862	1222	3916	1276	3970
1169	3863	1223	3917	1277	3971
1170	3864	1224	3918	1278	3972
1171	3865	1225	3919	1279	3973
1172	3866	1226	3920	1280	3974
1173	3867	1227	3921	1281	3975
1174	3868	1228	3922	1282	3976
1175	3869	1229	3923	1283	3977
1176	3870	1230	3924	1284	3978

TABLE 2 (cont)

1285	3979	1339	4032	1393	4086
1286	3980	1340	4033	1394	4087
1287	3981	1341	4034	1395	4088
1288	3982	1342	4035	1396	4089
1289	3983	1343	4036	1397	4090
1290	3984	1344	4037	1398	4091
1291	3985	1345	4038	1399	4092
1292	3986	1346	4039	1400	4093
1293	3987	1347	4040	1401	4094
1294	3988	1348	4041	1402	4095
1295	3989	1349	4042	1403	4096
1296	3990	1350	4043	1404	4097
1297	3991	1351	4044	1405	4098
1298	3992	1352	4045	1406	4099
1299	3993	1353	4046	1407	4100
1300	3994	1354	4047	1408	4101
1301	3995	1355	4048	1409	4102
1302	3996	1356	4049	1410	4103
1303	3997	1357	4050	1411	4104
1304	3998	1358	4051	1412	4105
1305	3999	1359	4052	1413	4106
1306	4000	1360	4053	1414	4107
1307	4001	1361	4054	1415	4108
1308	4002	1362	4055	1416	4109
1309	4003	1363	4056	1417	4110
1310	4004	1364	4057	1418	4111
1311	4005	1365	4058	1419	4112
1312	4006	1366	4059	1420	4113
1313	4007	1367	4060	1421	4114
1314	4008	1368	4061	1422	4115
1315	4009	1369	4062	1423	4116
1316	4010	1370	4063	1424	4117
1317	4011	1371	4064	1425	4118
1318	4012	1372	4065	1426	4119
1319	4013	1373	4066	1427	4120
1320	4014	1374	4067	1428	4121
1321	4015	1375	4068	1429	4122
1322	4016	1376	4069	1430	4123
1323	4017	1377	4070	1431	4124
1324	4018	1378	4071	1432	NONE
1325	4019	1379	4072	1433	4125
1326	4020	1380	4073	1434	4126
1327	4021	1381	4074	1435	4127
1328	4022	1382	4075	1436	4128
1329	4023	1383	4076	1437	4129
1330	NONE	1384	4077	1438	4130
1331	4024	1385	4078	1439	4131
1332	4025	1386	4079	1440	4132
1333	4026	1387	4080	1441	4133
1334	4027	1388	4081	1442	4134
1335	4028	1389	4082	1443	4135
1336	4029	1390	4083	1444	4136
1337	4030	1391	4084	1445	4137
1338	4031	1392	4085	1446	4138

TABLE 2 (cont)

1447	4139	1501	4193	1555	4247
1448	4140	1502	4194	1556	4248
1449	4141	1503	4195	1557	4249
1450	4142	1504	4196	1558	NONE
1451	4143	1505	4197	1559	4250
1452	4144	1506	4198	1560	4251
1453	4145	1507	4199	1561	4252
1454	4146	1508	4200	1562	4253
1455	4147	1509	4201	1563	4254
1456	4148	1510	4202	1564	4255
1457	4149	1511	4203	1565	4256
1458	4150	1512	4204	1566	4257
1459	4151	1513	4205	1567	4258
1460	4152	1514	4206	1568	4259
1461	4153	1515	4207	1569	4260
1462	4154	1516	4208	1570	4261
1463	4155	1517	4209	1571	4262
1464	4156	1518	4210	1572	4263
1465	4157	1519	4211	1573	4264
1466	4158	1520	4212	1574	4265
1467	4159	1521	4213	1575	4266
1468	4160	1522	4214	1576	4267
1469	4161	1523	4215	1577	4268
1470	4162	1524	4216	1578	4269
1471	4163	1525	4217	1579	4270
1472	4164	1526	4218	1580	4271
1473	4165	1527	4219	1581	4272
1474	4166	1528	4220	1582	4273
1475	4167	1529	4221	1583	4274
1476	4168	1530	4222	1584	4275
1477	4169	1531	4223	1585	4276
1478	4170	1532	4224	1586	4277
1479	4171	1533	4225	1587	4278
1480	4172	1534	4226	1588	4279
1481	4173	1535	4227	1589	4280
1482	4174	1536	4228	1590	4281
1483	4175	1537	4229	1591	4282
1484	4176	1538	4230	1592	4283
1485	4177	1539	4231	1593	4284
1486	4178	1540	4232	1594	4285
1487	4179	1541	4233	1595	4286
1488	4180	1542	4234	1596	4287
1489	4181	1543	4235	1597	4288
1490	4182	1544	4236	1598	4289
1491	4183	1545	4237	1599	4290
1492	4184	1546	4238	1600	4291
1493	4185	1547	4239	1601	4292
1494	4186	1548	4240	1602	4293
1495	4187	1549	4241	1603	4294
1496	4188	1550	4242	1604	4295
1497	4189	1551	4243	1605	4296
1498	4190	1552	4244	1606	4297
1499	4191	1553	4245	1607	4298
1500	4192	1554	4246	1608	4299

TABLE 2 (cont)

1609	4300	1663	NONE	1717	4406
1610	4301	1664	4354	1718	4407
1611	4302	1665	4355	1719	4408
1612	4303	1666	4356	1720	4409
1613	4304	1667	4357	1721	4410
1614	4305	1668	4358	1722	4411
1615	4306	1669	4359	1723	4412
1616	4307	1670	4360	1724	4413
1617	4308	1671	4361	1725	4414
1618	4309	1672	4362	1726	4415
1619	4310	1673	4363	1727	4416
1620	4311	1674	4364	1728	4417
1621	4312	1675	4365	1729	4418
1622	4313	1676	4366	1730	4419
1623	4314	1677	4367	1731	4420
1624	4315	1678	4368	1732	4421
1625	4316	1679	4369	1733	4422
1626	4317	1680	4370	1734	4423
1627	4318	1681	4371	1735	4424
1628	4319	1682	4372	1736	4425
1629	4320	1683	4373	1737	4426
1630	4321	1684	4374	1738	4427
1631	4322	1685	4375	1739	4428
1632	4323	1686	4376	1740	4429
1633	4324	1687	4377	1741	4430
1634	4325	1688	4378	1742	4431
1635	4326	1689	4379	1743	4432
1636	4327	1690	4380	1744	4433
1637	4328	1691	4381	1745	4434
1638	4329	1692	4382	1746	4435
1639	4330	1693	4383	1747	4436
1640	4331	1694	4384	1748	4437
1641	4332	1695	4385	1749	4438
1642	4333	1696	4386	1750	4439
1643	4334	1697	4387	1751	4440
1644	4335	1698	4388	1752	4441
1645	4336	1699	4389	1753	4442
1646	4337	1700	4390	1754	4443
1647	4338	1701	4391	1755	4444
1648	4339	1702	4392	1756	4445
1649	4340	1703	4393	1757	4446
1650	4341	1704	4394	1758	4447
1651	4342	1705	4395	1759	4448
1652	4343	1706	4396	1760	4449
1653	4344	1707	4397	1761	4450
1654	4345	1708	4398	1762	4451
1655	4346	1709	4399	1763	4452
1656	4347	1710	4400	1764	4453
1657	4348	1711	4401	1765	4454
1658	4349	1712	NONE	1766	4455
1659	4350	1713	4402	1767	4456
1660	4351	1714	4403	1768	4457
1661	4352	1715	4404	1769	4458
1662	4353	1716	4405	1770	4459

TABLE 2 (cont)

1771	4460	1825	4512	1879	4566
1772	4461	1826	4513	1880	4567
1773	4462	1827	4514	1881	4568
1774	4463	1828	4515	1882	4569
1775	4464	1829	4516	1883	4570
1776	4465	1830	4517	1884	4571
1777	4466	1831	4518	1885	4572
1778	4467	1832	4519	1886	4573
1779	4468	1833	4520	1887	4574
1780	4469	1834	4521	1888	4575
1781	4470	1835	4522	1889	4576
1782	4471	1836	4523	1890	4577
1783	4472	1837	4524	1891	4578
1784	NONE	1838	4525	1892	4579
1785	4473	1839	4526	1893	4580
1786	4474	1840	4527	1894	4581
1787	4475	1841	4528	1895	4582
1788	4476	1842	4529	1896	4583
1789	4477	1843	4530	1897	NONE
1790	4478	1844	4531	1898	4584
1791	4479	1845	4532	1899	4585
1792	4480	1846	4533	1900	4586
1793	4481	1847	4534	1901	4587
1794	4482	1848	4535	1902	4588
1795	4483	1849	4536	1903	4589
1796	4484	1850	4537	1904	4590
1797	4485	1851	4538	1905	4591
1798	4486	1852	4539	1906	4592
1799	4487	1853	4540	1907	NONE
1800	4488	1854	4541	1908	4593
1801	4489	1855	4542	1909	4594
1802	4490	1856	4543	1910	4595
1803	NONE	1857	4544	1911	4596
1804	4491	1858	4545	1912	4597
1805	4492	1859	4546	1913	4598
1806	4493	1860	4547	1914	4599
1807	4494	1861	4548	1915	4600
1808	4495	1862	4549	1916	4601
1809	4496	1863	4550	1917	4602
1810	4497	1864	4551	1918	4603
1811	4498	1865	4552	1919	4604
1812	4499	1866	4553	1920	4605
1813	4500	1867	4554	1921	4606
1814	4501	1868	4555	1922	4607
1815	4502	1869	4556	1923	4608
1816	4503	1870	4557	1924	4609
1817	4504	1871	4558	1925	4610
1818	4505	1872	4559	1926	4611
1819	4506	1873	4560	1927	4612
1820	4507	1874	4561	1928	4613
1821	4508	1875	4562	1929	4614
1822	4509	1876	4563	1930	4615
1823	4510	1877	4564	1931	4616
1824	4511	1878	4565	1932	4617

TABLE 2 (cont)

1933	4618	1987	4672	2041	4725
1934	4619	1988	4673	2042	4726
1935	4620	1989	4674	2043	4727
1936	4621	1990	4675	2044	4728
1937	4622	1991	4676	2045	4729
1938	4623	1992	4677	2046	4730
1939	4624	1993	4678	2047	4731
1940	4625	1994	4679	2048	4732
1941	4626	1995	4680	2049	4733
1942	4627	1996	4681	2050	4734
1943	4628	1997	4682	2051	4735
1944	4629	1998	4683	2052	4736
1945	4630	1999	4684	2053	4737
1946	4631	2000	4685	2054	4738
1947	4632	2001	4686	2055	4739
1948	4633	2002	4687	2056	4740
1949	4634	2003	4688	2057	4741
1950	4635	2004	4689	2058	4742
1951	4636	2005	4690	2059	4743
1952	4637	2006	4691	2060	4744
1953	4638	2007	4692	2061	4745
1954	4639	2008	4693	2062	4746
1955	4640	2009	4694	2063	4747
1956	4641	2010	4695	2064	4748
1957	4642	2011	4696	2065	4749
1958	4643	2012	4697	2066	4750
1959	4644	2013	4698	2067	4751
1960	4645	2014	4699	2068	4752
1961	4646	2015	4700	2069	4753
1962	4647	2016	4701	2070	4754
1963	4648	2017	4702	2071	4755
1964	4649	2018	4703	2072	4756
1965	4650	2019	4704	2073	4757
1966	4651	2020	4705	2074	4758
1967	4652	2021	4706	2075	4759
1968	4653	2022	4707	2076	4760
1969	4654	2023	4708	2077	4761
1970	4655	2024	4709	2078	4762
1971	4656	2025	4710	2079	4763
1972	4657	2026	4711	2080	4764
1973	4658	2027	4712	2081	4765
1974	4659	2028	4713	2082	4766
1975	4660	2029	4714	2083	4767
1976	4661	2030	NONE	2084	4768
1977	4662	2031	4715	2085	4769
1978	4663	2032	4716	2086	4770
1979	4664	2033	4717	2087	4771
1980	4665	2034	4718	2088	4772
1981	4666	2035	4719	2089	4773
1982	4667	2036	4720	2090	4774
1983	4668	2037	4721	2091	4775
1984	4669	2038	4722	2092	4776
1985	4670	2039	4723	2093	4777
1986	4671	2040	4724	2094	4778



TABLE 2 (cont)

2095	4779	2149	4833	2203	4886
2096	4780	2150	4834	2204	4887
2097	4781	2151	NONE	2205	4888
2098	4782	2152	4835	2206	4889
2099	4783	2153	4836	2207	4890
2100	4784	2154	4837	2208	4891
2101	4785	2155	4838	2209	4892
2102	4786	2156	4839	2210	4893
2103	4787	2157	4840	2211	4894
2104	4788	2158	4841	2212	4895
2105	4789	2159	4842	2213	4896
2106	4790	2160	4843	2214	4897
2107	4791	2161	4844	2215	4898
2108	4792	2162	4845	2216	4899
2109	4793	2163	4846	2217	4900
2110	4794	2164	4847	2218	4901
2111	4795	2165	4848	2219	4902
2112	4796	2166	4849	2220	4903
2113	4797	2167	4850	2221	4904
2114	4798	2168	4851	2222	4905
2115	4799	2169	4852	2223	4906
2116	4800	2170	4853	2224	4907
2117	4801	2171	4854	2225	4908
2118	4802	2172	4855	2226	4909
2119	4803	2173	4856	2227	4910
2120	4804	2174	4857	2228	4911
2121	4805	2175	4858	2229	4912
2122	4806	2176	4859	2230	4913
2123	4807	2177	4860	2231	4914
2124	4808	2178	4861	2232	4915
2125	4809	2179	4862	2233	4916
2126	4810	2180	4863	2234	4917
2127	4811	2181	4864	2235	4918
2128	4812	2182	4865	2236	4919
2129	4813	2183	4866	2237	4920
2130	4814	2184	4867	2238	4921
2131	4815	2185	4868	2239	4922
2132	4816	2186	4869	2240	4923
2133	4817	2187	4870	2241	4924
2134	4818	2188	4871	2242	4925
2135	4819	2189	4872	2243	4926
2136	4820	2190	4873	2244	4927
2137	4821	2191	4874	2245	4928
2138	4822	2192	4875	2246	4929
2139	4823	2193	4876	2247	4930
2140	4824	2194	4877	2248	NONE
2141	4825	2195	4878	2249	4931
2142	4826	2196	4879	2250	4932
2143	4827	2197	4880	2251	4933
2144	4828	2198	4881	2252	4934
2145	4829	2199	4882	2253	4935
2146	4830	2200	4883	2254	4936
2147	4831	2201	4884	2255	4937
2148	4832	2202	4885	2256	4938

TABLE 2 (cont)

2257	4939	2311	4993	2365	5046
2258	4940	2312	4994	2366	5047
2259	4941	2313	4995	2367	5048
2260	4942	2314	4996	2368	5049
2261	4943	2315	4997	2369	5050
2262	4944	2316	4998	2370	5051
2263	4945	2317	4999	2371	NONE
2264	4946	2318	5000	2372	5052
2265	4947	2319	5001	2373	5053
2266	4948	2320	5002	2374	5054
2267	4949	2321	5003	2375	5055
2268	4950	2322	5004	2376	5056
2269	4951	2323	5005	2377	5057
2270	4952	2324	5006	2378	5058
2271	4953	2325	5007	2379	5059
2272	4954	2326	5008	2380	5060
2273	4955	2327	5009	2381	5061
2274	4956	2328	5010	2382	5062
2275	4957	2329	5011	2383	5063
2276	4958	2330	5012	2384	5064
2277	4959	2331	5013	2385	5065
2278	4960	2332	5014	2386	5066
2279	4961	2333	5015	2387	5067
2280	4962	2334	5016	2388	5068
2281	4963	2335	5017	2389	5069
2282	4964	2336	5018	2390	5070
2283	4965	2337	5019	2391	5071
2284	4966	2338	5020	2392	5072
2285	4967	2339	5021	2393	5073
2286	4968	2340	NONE	2394	5074
2287	4969	2341	5022	2395	5075
2288	4970	2342	5023	2396	5076
2289	4971	2343	5024	2397	5077
2290	4972	2344	5025	2398	5078
2291	4973	2345	5026	2399	5079
2292	4974	2346	5027	2400	5080
2293	4975	2347	5028	2401	5081
2294	4976	2348	5029	2402	5082
2295	4977	2349	5030	2403	5083
2296	4978	2350	5031	2404	5084
2297	4979	2351	5032	2405	5085
2298	4980	2352	5033	2406	5086
2299	4981	2353	5034	2407	5087
2300	4982	2354	5035	2408	5088
2301	4983	2355	5036	2409	5089
2302	4984	2356	5037	2410	5090
2303	4985	2357	5038	2411	5091
2304	4986	2358	5039	2412	5092
2305	4987	2359	5040	2413	5093
2306	4988	2360	5041	2414	5094
2307	4989	2361	5042	2415	5095
2308	4990	2362	5043	2416	5096
2309	4991	2363	5044	2417	5097
2310	4992	2364	5045	2418	5098

TABLE 2 (cont)

2419	5099	2473	5151	2527	5205
2420	5100	2474	5152	2528	5206
2421	5101	2475	5153	2529	5207
2422	5102	2476	5154	2530	5208
2423	5103	2477	5155	2531	5209
2424	5104	2478	5156	2532	5210
2425	5105	2479	5157	2533	5211
2426	5106	2480	5158	2534	5212
2427	5107	2481	5159	2535	5213
2428	5108	2482	5160	2536	5214
2429	5109	2483	5161	2537	5215
2430	5110	2484	5162	2538	5216
2431	5111	2485	5163	2539	5217
2432	5112	2486	5164	2540	5218
2433	5113	2487	5165	2541	5219
2434	5114	2488	5166	2542	5220
2435	5115	2489	5167	2543	5221
2436	5116	2490	5168	2544	5222
2437	5117	2491	5169	2545	5223
2438	5118	2492	5170	2546	5224
2439	5119	2493	5171	2547	5225
2440	5120	2494	5172	2548	5226
2441	5121	2495	5173	2549	5227
2442	5122	2496	5174	2550	5228
2443	NONE	2497	5175	2551	5229
2444	5123	2498	5176	2552	5230
2445	5124	2499	5177	2553	5231
2446	5125	2500	5178	2554	5232
2447	5126	2501	5179	2555	5233
2448	5127	2502	5180	2556	5234
2449	5128	2503	5181	2557	5235
2450	5129	2504	5182	2558	5236
2451	5130	2505	5183	2559	5237
2452	5131	2506	5184	2560	5238
2453	5132	2507	5185	2561	5239
2454	5133	2508	5186	2562	5240
2455	5134	2509	5187	2563	5241
2456	5135	2510	5188	2564	5242
2457	5136	2511	5189	2565	5243
2458	5137	2512	5190	2566	5244
2459	5138	2513	5191	2567	5245
2460	5139	2514	5192	2568	5246
2461	5140	2515	5193	2569	5247
2462	5141	2516	5194	2570	5248
2463	5142	2517	5195	2571	5249
2464	5143	2518	5196	2572	5250
2465	5144	2519	5197	2573	5251
2466	5145	2520	5198	2574	5252
2467	5146	2521	5199	2575	5253
2468	5147	2522	5200	2576	5254
2469	NONE	2523	5201	2577	5255
2470	5148	2524	5202	2578	5256
2471	5149	2525	5203	2579	5257
2472	5150	2526	5204	2580	5258

TABLE 2 (cont)

2581	5259	2635	5312	2689	5365
2582	5260	2636	5313	2690	5366
2583	5261	2637	5314	2691	5367
2584	5262	2638	5315	2692	5368
2585	5263	2639	5316	2693	5369
2586	5264	2640	5317	2694	5370
2587	5265	2641	5318	2695	5371
2588	5266	2642	5319	2696	5372
2589	5267	2643	5320	2697	5373
2590	5268	2644	5321	2698	5374
2591	5269	2645	5322	2699	5375
2592	5270	2646	5323	2700	5376
2593	5271	2647	5324	2701	5377
2594	5272	2648	5325	2702	5378
2595	5273	2649	5326	2703	5379
2596	5274	2650	5327		
2597	5275	2651	5328		
2598	5276	2652	5329		
2599	NONE	2653	5330		
2600	5277	2654	5331		
2601	5278	2655	5332		
2602	5279	2656	5333		
2603	5280	2657	5334		
2604	5281	2658	5335		
2605	5282	2659	5336		
2606	5283	2660	5337		
2607	5284	2661	5338		
2608	5285	2662	5339		
2609	5286	2663	5340		
2610	5287	2664	5341		
2611	5288	2665	5342		
2612	5289	2666	5343		
2613	5290	2667	5344		
2614	5291	2668	5345		
2615	5292	2669	5346		
2616	5293	2670	5347		
2617	5294	2671	5348		
2618	5295	2672	5349		
2619	5296	2673	5350		
2620	5297	2674	5351		
2621	5298	2675	5352		
2622	5299	2676	5353		
2623	5300	2677	5354		
2624	5301	2678	5355		
2625	5302	2679	5356		
2626	5303	2680	5357		
2627	5304	2681	NONE		
2628	5305	2682	5358		
2629	5306	2683	5359		
2630	5307	2684	5360		
2631	5308	2685	5361		
2632	5309	2686	5362		
2633	5310	2687	5363		
2634	5311	2688	5364		

TABLE 3

## COLD RESPONSIVE SEQUENCES

SEQ ID NO:	AFFYMETRIX ID NO:	SEQ ID NO:	AFFYMETRIX ID NO:	SEQ ID NO:	AFFYMETRIX ID NO:
1	11991_G_AT	50	12269_S_AT	98	12550_S_AT
2	11992_AT	51	12270_AT		17103_S_AT
3	11997_AT	52	12284_AT	99	12552_AT
4	11998_AT	53	12287_S_AT	100	12555_S_AT
5	12001_AT		17570_G_AT	101	12576_S_AT
6	12006_S_AT	54	12293_AT	102	12581_S_AT
7	12007_AT	55	12294_S_AT		16645_S_AT
8	12009_AT	56	12300_AT	103	12587_AT
9	12018_AT	57	12307_AT	104	12597_AT
10	12022_AT	58	12312_AT	105	12602_AT
11	12026_AT	59	12315_AT	106	12610_AT
12	12031_AT	60	12324_I_AT	107	12631_AT
13	12047_AT	61	12331_S_AT	108	12646_AT
14	12051_AT	62	12336_AT	109	12649_AT
15	12052_AT	63	12344_AT	110	12650_AT
16	12053_AT	64	12348_AT	111	12653_AT
17	12060_AT	65	12353_AT	112	12661_AT
18	12072_AT	66	12359_S_AT	113	12666_AT
19	12074_AT	67	12372_AT	114	12674_AT
20	12102_AT	68	12374_I_AT	115	12675_S_AT
21	12112_AT		12726_F_AT	116	12678_I_AT
22	12117_AT	69	12390_AT	117	12681_S_AT
23	12125_AT	70	12395_S_AT	118	12688_AT
24	12130_AT	71	12405_AT	119	12702_AT
25	12143_AT	72	12408_AT	120	12705_F_AT
26	12145_S_AT	73	12410_G_AT	121	12736_F_AT
27	12149_AT	74	12419_AT	122	12737_F_AT
28	12156_AT	75	12427_AT	123	12758_AT
29	12163_AT	76	12431_AT	124	12760_G_AT
30	12166_I_AT	77	12436_AT	125	12762_R_AT
31	12167_AT	78	12438_AT	126	12764_F_AT
32	12169_I_AT	79	12443_S_AT	127	12766_AT
33	12175_AT	80	12447_AT		15115_F_AT
34	12176_AT	81	12450_S_AT	128	12767_AT
35	12179_AT	82	12452_AT	129	12768_AT
36	12187_AT	83	12474_AT	130	12772_AT
	15920_I_AT	84	12477_AT	131	12773_AT
37	12195_AT	85	12491_AT	132	12776_AT
38	12196_AT	86	12497_AT	133	12788_AT
39	12198_AT	87	12500_S_AT	134	12793_AT
40	12200_AT	88	12503_AT	135	12794_AT
41	12202_AT	89	12515_AT	136	12802_AT
42	12214_G_AT	90	12516_S_AT	137	12809_G_AT
43	12219_AT	91	12523_AT	138	12812_AT
44	12224_AT	92	12526_AT	139	12815_AT
45	12226_AT	93	12527_AT	140	12816_AT
46	12233_AT	94	12532_AT	141	12818_AT
47	12240_AT	95	12534_G_AT	142	12824_S_AT
48	12253_G_AT	96	12544_AT	143	12828_S_AT
49	12256_AT	97	12549_S_AT	144	12842_S_AT

TABLE 3 (cont)

145	12846_S_AT	194	13086_R_AT	238	13285_S_AT
146	12858_AT	195	13087_AT	239	13288_S_AT
147	12860_S_AT	196	13090_AT		17043_S_AT
148	12861_S_AT	197	13092_S_AT	240	13292_S_AT
149	12881_S_AT		16950_S_AT	241	13296_S_AT
	17600_S_AT	198	13098_AT	242	13297_S_AT
150	12889_S_AT	199	13100_AT	243	13299_S_AT
151	12901_S_AT	200	13103_AT		15166_S_AT
152	12902_AT	201	13105_AT	244	13332_AT
153	12904_S_AT	202	13107_S_AT	245	13347_AT
154	12905_S_AT	203	13108_AT	246	13351_AT
155	12908_S_AT	204	13109_AT	247	13352_AT
156	12910_S_AT	205	13114_AT	248	13355_AT
	16385_S_AT	206	13118_F_AT	249	13404_AT
157	12914_S_AT	207	13119_AT	250	13422_AT
	15783_S_AT	208	13120_AT	251	13459_AT
	17645_S_AT	209	13123_AT	252	13460_AT
158	12916_S_AT	210	13128_AT	253	13461_S_AT
159	12923_S_AT	211	13133_S_AT	254	13467_AT
160	12926_S_AT		17430_S_AT	255	13488_AT
161	12927_S_AT	212	13135_S_AT	256	13523_S_AT
162	12931_S_AT	213	13139_AT	257	13529_AT
163	12937_R_AT	214	13140_AT	258	13539_I_AT
164	12941_G_AT	215	13143_AT		14631_S_AT
165	12942_AT	216	13151_G_AT	259	13541_AT
166	12947_AT	217	13160_AT	260	13542_AT
167	12949_AT	218	13161_AT	261	13545_S_AT
168	12953_AT	219	13162_AT	262	13552_AT
169	12956_I_AT	220	13165_AT	263	13556_I_AT
170	12959_AT	221	13166_AT	264	13561_AT
171	12966_S_AT	222	13167_AT	265	13563_S_AT
172	12975_AT	223	13179_AT	266	13567_AT
173	12983_AT	224	13181_AT	267	13568_AT
174	12984_AT	225	13185_AT	268	13571_AT
175	12987_S_AT	226	13193_S_AT	269	13575_AT
176	12994_S_AT	227	13213_S_AT	270	13576_AT
177	13002_AT		16004_S_AT	271	13583_AT
178	13009_I_AT	228	13219_S_AT	272	13598_AT
179	13011_AT		20288_G_AT	273	13601_AT
180	13018_AT	229	13220_S_AT	274	13604_AT
181	13023_AT		13221_AT	275	13613_AT
182	13024_AT		18929_S_AT	276	13616_S_AT
183	13034_S_AT	230	13233_AT		16544_S_AT
184	13046_G_AT		14301_S_AT	277	13617_AT
185	13048_S_AT	231	13243_R_AT	278	13618_S_AT
	13495_S_AT	232	13254_S_AT	279	13619_AT
186	13054_AT	233	13260_S_AT	280	13621_G_AT
187	13067_S_AT		15660_S_AT	281	13623_R_AT
188	13068_AT	234	13273_S_AT	282	13629_S_AT
189	13073_S_AT		16105_S_AT	283	13631_AT
190	13078_S_AT	235	13274_S_AT	284	13635_AT
191	13079_AT		17077_S_AT	285	13646_AT
192	13081_S_AT	236	13276_S_AT	286	13650_AT
193	13083_AT	237	13278_F_AT	287	13653_AT

TABLE 3 (cont)

288	13655_AT	332	13989_AT	383	14393_AT
289	13656_AT		20674_S_AT	384	14421_AT
290	13657_AT	333	14010_AT	385	14436_AT
291	13666_S_AT	334	14013_AT	386	14448_AT
	17083_S_AT	335	14014_AT	387	14450_AT
292	13667_S_AT	336	14019_AT	388	14454_AT
293	13669_S_AT	337	14021_R_AT	389	14459_AT
	17074_S_AT	338	14025_S_AT	390	14478_AT
294	13670_S_AT		18909_S_AT	391	14482_AT
	15206_S_AT	339	14027_AT	392	14485_AT
295	13671_S_AT	340	14030_AT	393	14492_S_AT
	16805_S_AT	341	14044_AT	394	14505_AT
296	13678_S_AT	342	14048_AT	395	14510_AT
297	13688_S_AT	343	14056_AT	396	14511_AT
298	13690_S_AT	344	14057_AT	397	14517_AT
	16065_S_AT	345	14058_AT	398	14519_AT
299	13691_S_AT	346	14059_AT	399	14525_S_AT
	16117_S_AT	347	14061_AT	400	14527_AT
300	13692_S_AT	348	14068_S_AT	401	14534_S_AT
	16118_S_AT	349	14072_AT	402	14538_R_AT
301	13700_AT	350	14073_AT	403	14554_AT
302	13704_S_AT	351	14074_AT	404	14558_AT
303	13714_AT	352	14084_AT	405	14559_S_AT
304	13715_AT	353	14095_S_AT	406	14566_AT
305	13724_AT	354	14100_AT	407	14572_AT
306	13748_AT	355	14101_AT	408	14579_AT
307	13759_AT	356	14103_AT	409	14587_AT
308	13767_AT	357	14105_AT	410	14591_AT
309	13785_AT	358	14106_AT	411	14595_AT
310	13803_AT	359	14121_AT	412	14602_AT
311	13850_I_AT	360	14129_S_AT	413	14603_AT
312	13876_AT	361	14133_S_AT	414	14605_AT
313	13880_S_AT	362	14143_AT	415	14620_S_AT
314	13883_AT	363	14145_AT	416	14626_S_AT
315	13887_S_AT	364	14148_AT	417	14630_S_AT
316	13895_AT	365	14186_AT		16559_S_AT
317	13904_S_AT	366	14194_AT	418	14637_S_AT
	18722_S_AT	367	14196_AT		17122_S_AT
318	13906_S_AT	368	14223_AT	419	14642_F_AT
319	13908_S_AT	369	14234_AT	420	14650_S_AT
	18597_AT	370	14236_AT		15150_S_AT
320	13923_AT	371	14251_F_AT	421	14654_S_AT
321	13927_AT	372	14252_F_AT	422	14667_S_AT
322	13932_AT	373	14270_AT		18299_S_AT
323	13935_AT	374	14298_G_AT	423	14669_S_AT
324	13940_AT		17581_G_AT		16136_S_AT
325	13949_S_AT	375	14303_S_AT	424	14672_S_AT
326	13954_G_AT	376	14312_AT	425	14679_S_AT
327	13971_S_AT	377	14316_AT	426	14682_I_AT
328	13973_AT	378	14339_AT	427	14689_AT
329	13983_AT	379	14366_AT	428	14697_G_AT
330	13985_S_AT	380	14369_AT		16902_AT
331	13987_S_AT	381	14388_AT	429	14701_S_AT
	18738_F_AT	382	14392_G_AT		14734_S_AT

TABLE 3 (cont)

430	14703_AT	483	15130_S_AT	534	15489_AT
431	14711_S_AT	484	15131_S_AT	535	15490_AT
432	14712_S_AT	485	15132_S_AT	536	15503_AT
	20530_S_AT		17585_S_AT	537	15505_AT
433	14713_S_AT	486	15139_S_AT	538	15510_R_AT
434	14715_S_AT	487	15143_S_AT	539	15512_AT
435	14728_S_AT	488	15146_S_AT	540	15514_AT
436	14731_S_AT	489	15159_S_AT	541	15515_R_AT
437	14781_AT		15160_S_AT	542	15517_S_AT
438	14797_S_AT	490	15162_S_AT	543	15518_AT
439	14800_AT	491	15167_S_AT	544	15529_AT
440	14809_AT	492	15171_S_AT	545	15534_F_AT
441	14843_AT	493	15174_F_AT	546	15538_AT
442	14847_AT	494	15178_S_AT	547	15541_AT
443	14872_AT	495	15185_S_AT	548	15543_AT
444	14886_AT		18023_S_AT	549	15544_AT
445	14896_AT	496	15188_S_AT	550	15551_AT
446	14900_AT	497	15193_S_AT	551	15574_S_AT
447	14908_AT	498	15196_S_AT	552	15576_S_AT
448	14912_AT	499	15197_S_AT	553	15577_S_AT
449	14914_AT	500	15201_F_AT	554	15578_S_AT
450	14942_AT	501	15213_S_AT	555	15583_S_AT
451	14945_AT	502	15243_AT	556	15588_S_AT
452	14955_AT	503	15256_AT	557	15595_S_AT
453	14957_S_AT	504	15270_AT	558	15600_S_AT
454	14958_AT	505	15319_AT	559	15602_F_AT
455	14965_AT	506	15325_AT	560	15608_S_AT
456	14974_AT	507	15337_AT	561	15613_S_AT
457	14980_AT	508	15341_AT	562	15616_S_AT
458	14981_AT	509	15343_AT	563	15618_S_AT
459	14984_S_AT	510	15348_AT	564	15620_S_AT
460	14995_AT	511	15350_AT	565	15627_S_AT
461	15004_AT	512	15355_S_AT	566	15634_S_AT
462	15009_AT	513	15367_AT		16125_S_AT
463	15010_AT	514	15372_AT		18046_S_AT
464	15024_AT	515	15379_AT	567	15637_S_AT
465	15026_AT	516	15381_AT	568	15639_S_AT
466	15036_R_AT	517	15383_AT	569	15642_S_AT
467	15054_AT	518	15384_AT	570	15643_S_AT
468	15056_AT	519	15385_AT	571	15651_F_AT
469	15057_AT	520	15387_AT	572	15652_S_AT
470	15066_AT	521	15410_AT	573	15665_S_AT
471	15073_AT	522	15417_S_AT	574	15667_S_AT
472	15081_AT	523	15422_AT		18610_S_AT
473	15083_AT	524	15423_AT	575	15668_S_AT
474	15091_AT	525	15431_AT	576	15671_S_AT
475	15097_S_AT	526	15433_AT	577	15675_S_AT
476	15101_S_AT	527	15452_AT	578	15679_S_AT
477	15102_S_AT	528	15464_AT	579	15685_S_AT
478	15107_S_AT	529	15468_AT	580	15687_F_AT
479	15112_S_AT	530	15471_AT	581	15688_S_AT
480	15116_F_AT	531	15472_AT	582	15689_S_AT
481	15118_S_AT	532	15475_S_AT	583	15692_S_AT
482	15122_S_AT	533	15485_AT	584	15694_S_AT



TABLE 3 (cont)

585	15712_S_AT	634	16089_S_AT	686	16496_S_AT
586	15808_AT	635	16090_S_AT	687	16499_AT
587	15845_AT	636	16102_S_AT	688	16510_AT
588	15848_AT	637	16103_S_AT	689	16511_AT
589	15850_AT	638	16108_S_AT	690	16512_S_AT
	20406_G_AT	639	16112_S_AT		18085_R_AT
590	15858_AT	640	16134_S_AT	691	16514_AT
591	15862_AT	641	16137_S_AT	692	16516_AT
592	15868_AT	642	16138_S_AT	693	16517_AT
593	15878_AT	643	16140_S_AT	694	16526_AT
594	15894_AT	644	16143_S_AT	695	16528_AT
595	15900_AT	645	16145_S_AT	696	16531_S_AT
596	15901_AT	646	16148_S_AT	697	16535_S_AT
597	15902_AT	647	16151_S_AT	698	16537_S_AT
598	15912_AT	648	16155_S_AT	699	16538_S_AT
599	15913_AT	649	16158_F_AT	700	16543_S_AT
600	15928_AT	650	16160_F_AT	701	16550_S_AT
601	15940_AT	651	16162_S_AT	702	16554_S_AT
602	15941_AT	652	16168_S_AT	703	16567_S_AT
603	15945_AT	653	16169_S_AT	704	16571_S_AT
604	15948_S_AT	654	16171_S_AT	705	16576_F_AT
605	15956_AT	655	16172_S_AT	706	16577_S_AT
606	15960_AT	656	16184_AT	707	16579_S_AT
	16466_S_AT	657	16192_AT	708	16580_S_AT
607	15976_AT	658	16222_AT	709	16583_S_AT
608	15978_AT	659	16242_AT	710	16584_S_AT
609	15986_S_AT	660	16244_AT		18706_S_AT
610	15990_AT	661	16250_AT	711	16593_S_AT
611	16009_S_AT	662	16286_AT	712	16595_S_AT
612	16015_AT	663	16288_AT	713	16598_S_AT
613	16019_AT	664	16294_S_AT	714	16604_S_AT
614	16024_AT	665	16296_AT	715	16605_S_AT
615	16034_AT	666	16297_AT	716	16610_S_AT
616	16036_I_AT	667	16325_AT	717	16611_S_AT
	18729_AT	668	16346_S_AT	718	16614_S_AT
617	16039_S_AT	669	16357_AT	719	16617_S_AT
618	16040_AT	670	16380_AT	720	16618_S_AT
619	16042_S_AT	671	16382_AT	721	16620_S_AT
620	16047_AT	672	16393_S_AT	722	16621_S_AT
621	16049_S_AT	673	16402_S_AT	723	16631_S_AT
622	16051_S_AT	674	16411_S_AT	724	16634_S_AT
623	16055_S_AT	675	16442_S_AT	725	16635_S_AT
624	16059_S_AT	676	16446_AT	726	16636_S_AT
625	16062_S_AT	677	16448_G_AT	727	16639_S_AT
626	16066_S_AT	678	16453_S_AT	728	16640_S_AT
627	16069_S_AT	679	16457_S_AT	729	16650_S_AT
628	16074_S_AT	680	16465_AT	730	16652_S_AT
629	16076_S_AT		16916_S_AT	731	16654_AT
630	16077_S_AT	681	16470_S_AT	732	16672_AT
	17579_S_AT		18735_S_AT	733	16673_AT
631	16079_S_AT	682	16481_S_AT	734	16687_S_AT
632	16084_S_AT	683	16486_AT	735	16747_AT
	17998_S_AT	684	16487_AT	736	16753_AT
633	16087_S_AT	685	16488_AT	737	16768_AT

TABLE 3 (cont)

738	16777_AT	790	17123_S_AT	843	17562_AT
739	16784_AT	791	17129_S_AT	844	17564_S_AT
740	16807_AT	792	17132_AT		19361_S_AT
741	16811_AT	793	17166_AT	845	17565_S_AT
742	16845_AT	794	17206_AT	846	17568_AT
743	16894_AT	795	17207_AT	847	17573_AT
744	16899_AT	796	17215_AT	848	17577_G_AT
745	16911_AT	797	17237_AT	849	17578_AT
746	16920_AT	798	17247_AT	850	17596_AT
747	16921_AT	799	17254_AT	851	17627_AT
748	16924_S_AT	800	17286_AT	852	17631_AT
749	16926_S_AT	801	17288_S_AT	853	17632_AT
750	16931_S_AT	802	17292_AT	854	17672_AT
751	16934_S_AT	803	17300_AT	855	17675_AT
752	16937_AT	804	17303_S_AT	856	17677_AT
753	16938_AT	805	17318_AT	857	17732_AT
754	16942_AT	806	17319_AT	858	17743_AT
755	16943_S_AT	807	17322_AT	859	17748_AT
	18231_AT	808	17323_AT	860	17782_AT
756	16949_S_AT	809	17332_S_AT	861	17823_S_AT
757	16952_S_AT	810	17374_AT	862	17841_AT
758	16956_AT	811	17381_AT	863	17849_S_AT
759	16962_S_AT	812	17388_AT	864	17852_G_AT
760	16965_S_AT	813	17392_S_AT	865	17857_AT
761	16970_S_AT	814	17405_AT	866	17865_AT
	18010_S_AT	815	17415_AT	867	17882_AT
762	16977_AT	816	17418_S_AT	868	17885_AT
763	16984_AT	817	17420_AT	869	17900_S_AT
764	16996_S_AT	818	17423_S_AT	870	17910_AT
765	16997_AT	819	17426_AT	871	17911_AT
766	17000_AT	820	17427_AT	872	17916_AT
767	17005_AT	821	17429_S_AT	873	17917_S_AT
768	17010_S_AT	822	17431_AT	874	17918_AT
769	17017_S_AT	823	17439_G_AT	875	17921_S_AT
770	17031_S_AT	824	17457_AT	876	17922_AT
771	17033_S_AT	825	17458_AT	877	17926_S_AT
772	17053_S_AT	826	17462_S_AT	878	17933_AT
773	17055_S_AT	827	17463_AT	879	17935_AT
774	17063_S_AT	828	17465_AT	880	17956_I_AT
775	17068_S_AT	829	17466_S_AT	881	17966_AT
776	17070_S_AT	830	17475_AT	882	17967_AT
777	17075_S_AT	831	17479_AT	883	17970_I_AT
778	17084_S_AT	832	17482_S_AT	884	17978_S_AT
779	17087_S_AT	833	17495_S_AT		20635_S_AT
780	17092_S_AT	834	17508_S_AT	885	17986_S_AT
781	17095_S_AT	835	17522_S_AT	886	17993_AT
782	17096_S_AT	836	17523_S_AT	887	18001_AT
783	17102_S_AT	837	17537_S_AT	888	18003_AT
784	17105_S_AT	838	17538_S_AT	889	18004_AT
785	17109_S_AT	839	17539_S_AT	890	18005_AT
786	17110_S_AT	840	17546_S_AT	891	18029_G_AT
787	17113_S_AT		18694_S_AT		18030_I_AT
788	17115_S_AT	841	17557_S_AT	892	18040_S_AT
789	17116_S_AT	842	17560_S_AT	893	18045_AT

TABLE 3 (cont)

894	18064_R_AT	947	18580_AT	1001	18889_AT
895	18065_R_AT	948	18581_AT	1002	18892_S_AT
896	18074_AT	949	18584_AT	1003	18901_AT
897	18076_S_AT	950	18587_S_AT	1004	18911_AT
898	18077_AT	951	18588_AT	1005	18917_I_AT
899	18081_AT	952	18591_AT	1006	18939_AT
900	18154_S_AT	953	18592_S_AT	1007	18947_I_AT
	18365_S_AT	954	18600_AT	1008	18950_AT
901	18165_AT	955	18601_S_AT	1009	18951_S_AT
902	18174_AT	956	18607_S_AT	1010	18954_AT
903	18176_AT	957	18611_AT	1011	18956_AT
904	18194_I_AT	958	18616_AT	1012	18959_AT
905	18197_AT	959	18622_G_AT	1013	18966_AT
906	18198_AT	960	18623_AT	1014	18974_AT
907	18213_AT	961	18628_AT	1015	18976_AT
908	18219_AT	962	18631_AT	1016	18980_AT
909	18221_AT	963	18635_AT	1017	18989_S_AT
910	18222_AT	964	18636_AT	1018	18994_AT
911	18226_S_AT	965	18638_AT	1019	19030_AT
912	18232_AT	966	18652_AT	1020	19039_AT
913	18237_AT	967	18657_AT	1021	19049_AT
914	18241_AT	968	18659_AT	1022	19083_AT
915	18257_AT	969	18660_S_AT	1023	19115_AT
916	18258_S_AT	970	18667_AT	1024	19117_S_AT
917	18269_S_AT	971	18675_AT	1025	19122_AT
918	18274_S_AT	972	18684_AT	1026	19125_S_AT
919	18275_AT	973	18686_S_AT	1027	19127_AT
920	18278_AT	974	18688_S_AT	1028	19130_AT
921	18282_AT	975	18693_S_AT	1029	19144_AT
922	18283_AT	976	18698_S_AT	1030	19157_S_AT
923	18290_AT	977	18705_AT	1031	19178_AT
924	18291_AT	978	18707_AT	1032	19190_G_AT
925	18306_AT	979	18708_AT	1033	19198_AT
926	18316_AT	980	18726_S_AT	1034	19202_AT
927	18317_AT	981	18727_AT	1035	19209_S_AT
928	18327_S_AT	982	18732_I_AT	1036	19211_AT
929	18337_S_AT	983	18736_AT	1037	19218_AT
930	18339_AT	984	18750_F_AT	1038	19222_AT
931	18347_S_AT	985	18754_AT	1039	19226_G_AT
932	18383_AT	986	18778_AT	1040	19229_AT
933	18390_AT	987	18806_S_AT	1041	19230_AT
934	18439_S_AT	988	18823_S_AT	1042	19232_S_AT
935	18465_S_AT	989	18829_AT	1043	19285_AT
936	18487_AT	990	18835_AT	1044	19326_AT
937	18508_S_AT	991	18844_AT	1045	19332_AT
938	18512_AT	992	18859_AT	1046	19346_AT
939	18543_AT	993	18864_AT	1047	19347_AT
940	18544_AT	994	18866_AT	1048	19362_AT
941	18552_AT	995	18880_AT	1049	19363_AT
942	18555_AT	996	18883_G_AT	1050	19364_AT
943	18556_AT	997	18885_AT	1051	19367_AT
944	18561_AT	998	18886_AT	1052	19373_AT
945	18567_AT	999	18887_AT	1053	19381_AT
946	18573_AT	1000	18888_AT	1054	19382_AT

TABLE 3 (cont)

1055	19384_AT	1109	19833_S_AT	1163	20093_I_AT
1056	19401_AT	1110	19834_AT	1164	20099_AT
1057	19406_AT	1111	19836_AT	1165	20100_AT
1058	19413_AT	1112	19841_AT	1166	20113_S_AT
1059	19416_AT	1113	19845_G_AT	1167	20117_AT
1060	19426_S_AT	1114	19854_AT	1168	20123_AT
1061	19439_AT	1115	19855_AT	1169	20127_S_AT
1062	19441_S_AT	1116	19866_AT	1170	20129_AT
1063	19442_AT	1117	19867_AT	1171	20150_AT
1064	19448_S_AT	1118	19870_S_AT	1172	20154_AT
1065	19454_AT	1119	19871_AT	1173	20156_AT
1066	19462_S_AT	1120	19872_AT	1174	20165_AT
1067	19464_AT	1121	19875_S_AT	1175	20173_AT
1068	19470_AT	1122	19876_AT	1176	20178_S_AT
1069	19483_AT	1123	19879_S_AT	1177	20183_AT
1070	19489_S_AT	1124	19881_AT	1178	20188_AT
1071	19513_AT	1125	19897_S_AT	1179	20189_AT
1072	19548_AT	1126	19903_AT	1180	20197_AT
1073	19562_AT	1127	19905_AT	1181	20210_G_AT
1074	19563_S_AT	1128	19906_AT	1182	20213_AT
1075	19567_AT	1129	19907_AT	1183	20229_AT
1076	19581_AT	1130	19910_AT	1184	20232_S_AT
1077	19589_S_AT	1131	19913_AT	1185	20255_AT
1078	19595_S_AT	1132	19920_S_AT	1186	20257_AT
1079	19606_AT	1133	19932_AT	1187	20262_AT
1080	19623_AT	1134	19939_AT	1188	20275_AT
1081	19624_AT	1135	19945_AT	1189	20278_S_AT
1082	19627_S_AT	1136	19947_AT	1190	20282_S_AT
1083	19636_AT	1137	19951_AT	1191	20284_AT
1084	19652_AT	1138	19956_AT	1192	20293_AT
1085	19655_AT	1139	19962_AT	1193	20294_AT
1086	19657_S_AT	1140	19963_AT	1194	20312_S_AT
1087	19658_AT	1141	19969_AT	1195	20315_I_AT
1088	19660_AT	1142	19970_S_AT	1196	20330_S_AT
1089	19665_S_AT	1143	19971_AT	1197	20331_AT
1090	19667_AT	1144	19972_AT	1198	20350_S_AT
1091	19671_AT	1145	19981_AT	1199	20354_S_AT
1092	19677_AT	1146	19990_AT	1200	20355_AT
1093	19686_AT	1147	19996_AT	1201	20360_AT
1094	19689_AT	1148	20003_S_AT	1202	20363_AT
1095	19690_S_AT	1149	20009_S_AT	1203	20369_S_AT
1096	19695_AT	1150	20013_AT	1204	20378_G_AT
1097	19698_AT	1151	20018_AT	1205	20383_AT
1098	19700_S_AT	1152	20024_S_AT	1206	20384_AT
1099	19708_AT	1153	20027_AT	1207	20387_AT
1100	19717_AT	1154	20045_AT	1208	20393_AT
1101	19726_S_AT	1155	20047_AT	1209	20396_AT
1102	19744_AT	1156	20048_AT	1210	20399_AT
1103	19752_S_AT	1157	20050_AT	1211	20409_G_AT
1104	19759_AT	1158	20051_AT	1212	20412_S_AT
1105	19782_AT	1159	20058_AT	1213	20413_AT
1106	19803_S_AT	1160	20067_AT	1214	20439_AT
1107	19828_AT	1161	20068_AT	1215	20440_AT
1108	19831_I_AT	1162	20069_AT	1216	20444_AT

TABLE 3 (cont)

1217	20445_AT
1218	20449_AT
1219	20456_AT
1220	20462_AT
1221	20471_AT
1222	20474_AT
1223	20495_S_AT
1224	20499_AT
1225	20501_AT
1226	20511_AT
1227	20515_S_AT
1228	20516_AT
1229	20517_AT
1230	20518_AT
1231	20520_S_AT
1232	20536_S_AT
1233	20538_S_AT
1234	20539_S_AT
1235	20558_AT
1236	20561_AT
1237	20567_AT
1238	20571_AT
1239	20582_S_AT
1240	20586_I_AT
1241	20590_AT
1242	20592_AT
1243	20594_AT
1244	20608_S_AT
1245	20612_S_AT
1246	20616_AT
1247	20620_G_AT
1248	20637_AT
1249	20643_AT
1250	20649_AT
1251	20651_AT
1252	20654_S_AT
1253	20670_AT
1254	20684_AT
1255	20685_AT
1256	20693_AT
1257	20701_S_AT
1258	20704_AT
1259	20705_AT
1260	20715_AT
1261	20719_AT

TABLE 4: 2X UP IN COLD, ONLY

11997_at	12688_at	13274_s_at	14145_at	15083_at	15639_s_at
11998_at	12701_l_at	13278_f_at	14170_at	15084_at	15641_s_at
12018_at	12702_at	13279_s_at	14186_at	15096_at	15660_s_at
12031_at	12719_f_at	13285_s_at	14196_at	15101_s_at	15665_s_at
12047_at	12726_f_at	13288_s_at	14227_at	15105_s_at	15687_f_at
12051_at	12736_f_at	13292_s_at	14234_at	15112_s_at	15694_s_at
12053_at	12754_g_at	13297_s_at	14250_r_at	15115_f_at	15712_s_at
12060_at	12762_r_at	13299_s_at	14270_at	15116_f_at	15783_s_at
12072_at	12766_at	13332_at	14298_g_at	15122_s_at	15808_at
12074_at	12767_at	13351_at	14303_s_at	15126_s_at	15837_at
12102_at	12768_at	13352_at	14312_at	15131_s_at	15850_at
12112_at	12773_at	13422_at	14339_at	15132_s_at	15862_at
12117_at	12788_at	13435_at	14388_at	15137_s_at	15868_at
12130_at	12802_at	13461_s_at	14393_at	15144_s_at	15878_at
12145_s_at	12860_s_at	13467_at	14511_at	15148_s_at	15901_at
12151_at	12861_s_at	13488_at	14525_s_at	15153_s_at	15912_at
12163_at	12879_s_at	13495_s_at	14527_at	15159_s_at	15920_l_at
12175_at	12891_at	13539_i_at	14534_s_at	15160_s_at	15941_at
12187_at	12914_s_at	13542_at	14554_at	15166_s_at	15945_at
12195_at	12927_s_at	13575_at	14566_at	15174_f_at	15960_at
12219_at	12947_at	13577_s_at	14579_at	15197_s_at	15990_at
12256_at	12956_l_at	13617_at	14591_at	15270_at	16001_at
12269_s_at	12966_s_at	13634_s_at	14595_at	15319_at	16009_s_at
12307_at	12974_at	13656_at	14600_at	15325_at	16010_s_at
12315_at	12987_s_at	13671_s_at	14631_s_at	15337_at	16034_at
12336_at	12994_s_at	13691_s_at	14635_s_at	15341_at	16036_l_at
12349_s_at	12998_at	13700_at	14679_s_at	15343_at	16039_s_at
12353_at	13002_at	13704_s_at	14691_at	15355_s_at	16040_at
12359_s_at	13018_at	13709_s_at	14697_g_at	15367_at	16042_s_at
12390_at	13023_at	13715_at	14709_at	15379_at	16047_at
12395_s_at	13046_g_at	13785_at	14711_s_at	15381_at	16049_s_at
12431_at	13054_at	13803_at	14728_s_at	15410_at	16051_s_at
12436_at	13086_r_at	13812_s_at	14731_s_at	15417_s_at	16062_s_at
12443_s_at	13087_at	13825_s_at	14797_s_at	15422_at	16079_s_at
12447_at	13100_at	13850_i_at	14809_at	15433_at	16087_s_at
12452_at	13109_at	13904_s_at	14843_at	15451_at	16090_s_at
12477_at	13119_at	13908_s_at	14847_at	15452_at	16117_s_at
12503_at	13120_at	13927_at	14872_at	15453_s_at	16118_s_at
12516_s_at	13128_at	13971_s_at	14886_at	15472_at	16137_s_at
12532_at	13134_s_at	13985_s_at	14896_at	15489_at	16155_s_at
12544_at	13140_at	14013_at	14897_at	15490_at	16162_s_at
12561_at	13143_at	14019_at	14900_at	15503_at	16184_at
12602_at	13167_at	14021_r_at	14956_s_at	15510_r_at	16192_at
12610_at	13172_s_at	14028_at	14958_at	15517_s_at	16222_at
12631_at	13178_at	14048_at	14965_at	15518_at	16244_at
12647_s_at	13179_at	14058_at	14984_s_at	15544_at	16250_at
12650_at	13181_at	14059_at	15004_at	15588_s_at	16260_at
12656_at	13187_l_at	14064_at	15010_at	15600_s_at	16286_at
12674_at	13209_s_at	14073_at	15036_r_at	15605_s_at	16296_at
12675_s_at	13219_s_at	14105_at	15040_g_at	15613_s_at	16297_at
12676_s_at	13221_at	14106_at	15046_s_at	15614_s_at	16342_at
12681_s_at	13243_r_at	14126_s_at	15057_at	15616_s_at	16367_l_at
12686_s_at	13260_s_at	14140_at	15073_at	15633_s_at	16411_s_at

TABLE 4 (cont): 2X UP IN COLD, ONLY

16442_s_at	17077_s_at	17978_s_at	18885_at	19689_at	20412_s_at
16465_at	17102_s_at	17999_at	18887_at	19698_at	20413_at
16466_s_at	17109_s_at	18001_at	18888_at	19700_s_at	20432_at
16468_at	17113_s_at	18004_at	18889_at	19707_s_at	20433_at
16486_at	17123_s_at	18012_s_at	18901_at	19708_at	20456_at
16487_at	17128_s_at	18040_s_at	18907_s_at	19713_at	20462_at
16488_at	17129_s_at	18176_at	18917_i_at	19718_at	20471_at
16489_at	17132_at	18194_i_at	18939_at	19744_at	20511_at
16496_s_at	17166_at	18197_at	18947_i_at	19836_at	20515_s_at
16499_at	17206_at	18198_at	18949_at	19839_at	20517_at
16511_at	17237_at	18213_at	18954_at	19840_s_at	20518_at
16517_at	17300_at	18219_at	18959_at	19845_g_at	20529_at
16538_s_at	17319_at	18222_at	18974_at	19854_at	20536_s_at
16554_s_at	17322_at	18231_at	18976_at	19855_at	20538_s_at
16571_s_at	17332_s_at	18232_at	18980_at	19860_at	20539_s_at
16576_f_at	17381_at	18241_at	18989_s_at	19866_at	20576_at
16595_s_at	17388_at	18269_s_at	19019_i_at	19871_at	20582_s_at
16605_s_at	17392_s_at	18272_at	19049_at	19875_s_at	20586_i_at
16610_s_at	17408_at	18282_at	19083_at	19879_s_at	20608_s_at
16620_s_at	17424_at	18298_at	19130_at	19881_at	20649_at
16621_s_at	17429_s_at	18316_at	19156_s_at	19913_at	20651_at
16635_s_at	17457_at	18317_at	19178_at	19939_at	20684_at
16636_s_at	17458_at	18331_s_at	19190_g_at	19945_at	20685_at
16638_s_at	17466_s_at	18347_s_at	19199_at	19947_at	20699_at
16650_s_at	17477_s_at	18383_at	19202_at	19951_at	20705_at
16672_at	17482_s_at	18390_at	19209_s_at	19956_at	20715_at
16673_at	17538_s_at	18455_at	19211_at	19971_at	
16687_s_at	17546_s_at	18465_s_at	19218_at	19976_at	
16747_at	17562_at	18544_at	19229_at	19998_at	
16753_at	17581_g_at	18555_at	19322_at	20003_s_at	
16768_at	17627_at	18556_at	19326_at	20015_at	
16805_s_at	17631_at	18560_at	19359_s_at	20027_at	
16807_at	17632_at	18561_at	19367_at	20051_at	
16845_at	17645_s_at	18571_at	19384_at	20068_at	
16847_at	17672_at	18588_at	19389_at	20093_i_at	
16896_s_at	17675_at	18597_at	19397_at	20117_at	
16899_at	17677_at	18601_s_at	19406_at	20150_at	
16902_at	17693_at	18611_at	19426_s_at	20156_at	
16911_at	17732_at	18623_at	19441_s_at	20165_at	
16914_s_at	17743_at	18635_at	19442_at	20257_at	
16943_s_at	17748_at	18659_at	19470_at	20262_at	
16956_at	17775_at	18660_s_at	19489_s_at	20275_at	
16996_s_at	17782_at	18673_at	19562_at	20282_s_at	
17010_s_at	17841_at	18694_s_at	19577_at	20288_g_at	
17016_s_at	17852_g_at	18705_at	19589_s_at	20293_at	
17032_s_at	17900_s_at	18708_at	19597_s_at	20315_i_at	
17033_s_at	17901_at	18738_f_at	19611_s_at	20330_s_at	
17043_s_at	17911_at	18750_f_at	19624_at	20360_at	
17050_s_at	17921_s_at	18778_at	19657_s_at	20363_at	
17055_s_at	17922_at	18829_at	19667_at	20369_s_at	
17068_s_at	17933_at	18835_at	19671_at	20384_at	
17071_s_at	17967_at	18866_at	19677_at	20393_at	
17075_s_at	17970_i_at	18875_s_at	19686_at	20396_at	

TABLE 5: 2X UP COLD 3 HR, ONLY

12117_at	13671_s_at	15453_s_at	17237_at	19624_at
12145_s_at	13691_s_at	15489_at	17319_at	19657_s_at
12151_at	13785_at	15518_at	17392_s_at	19667_at
12163_at	13803_at	15588_s_at	17429_s_at	19845_g_at
12187_at	13825_s_at	15613_s_at	17477_s_at	19855_at
12256_at	13904_s_at	15614_s_at	17538_s_at	19866_at
12315_at	14013_at	15616_s_at	17581_g_at	19945_at
12349_s_at	14021_r_at	15639_s_at	17627_at	19951_at
12353_at	14028_at	15641_s_at	17672_at	19998_at
12359_s_at	14064_at	15660_s_at	17693_at	20003_s_at
12544_at	14126_s_at	15687_f_at	17782_at	20015_at
12602_at	14145_at	15694_s_at	17841_at	20051_at
12610_at	14170_at	15862_at	17900_s_at	20093_i_at
12676_s_at	14196_at	15868_at	17933_at	20117_at
12686_s_at	14250_r_at	15878_at	17978_s_at	20288_g_at
12701_i_at	14298_g_at	15901_at	18001_at	20360_at
12702_at	14303_s_at	16034_at	18012_s_at	20369_s_at
12719_f_at	14339_at	16039_s_at	18198_at	20384_at
12736_f_at	14527_at	16040_at	18219_at	20462_at
12754_g_at	14534_s_at	16042_s_at	18241_at	20471_at
12766_at	14554_at	16047_at	18269_s_at	20515_s_at
12767_at	14595_at	16062_s_at	18272_at	20538_s_at
12768_at	14635_s_at	16087_s_at	18282_at	20576_at
12773_at	14679_s_at	16117_s_at	18298_at	20608_s_at
12788_at	14691_at	16118_s_at	18383_at	20651_at
12879_s_at	14697_g_at	16162_s_at	18556_at	20685_at
12891_at	14709_at	16184_at	18588_at	20705_at
12947_at	14728_s_at	16222_at	18601_s_at	
12966_s_at	14809_at	16250_at	18611_at	
12974_at	14896_at	16411_s_at	18694_s_at	
12994_s_at	14965_at	16442_s_at	18708_at	
13002_at	14984_s_at	16465_at	18738_f_at	
13100_at	15046_s_at	16486_at	18778_at	
13140_at	15083_at	16488_at	18829_at	
13167_at	15096_at	16489_at	18835_at	
13172_s_at	15105_s_at	16517_at	18866_at	
13179_at	15115_f_at	16571_s_at	18875_s_at	
13187_i_at	15116_f_at	16605_s_at	18888_at	
13219_s_at	15122_s_at	16610_s_at	18907_s_at	
13260_s_at	15126_s_at	16620_s_at	18917_i_at	
13278_f_at	15131_s_at	16636_s_at	18939_at	
13279_s_at	15132_s_at	16650_s_at	18974_at	
13285_s_at	15137_s_at	16805_s_at	19190_g_at	
13288_s_at	15153_s_at	16845_at	19199_at	
13292_s_at	15159_s_at	16899_at	19202_at	
13297_s_at	15160_s_at	16914_s_at	19211_at	
13351_at	15197_s_at	16943_s_at	19384_at	
13352_at	15355_s_at	16996_s_at	19406_at	
13435_at	15379_at	17010_s_at	19426_s_at	
13467_at	15417_s_at	17043_s_at	19442_at	
13488_at	15422_at	17068_s_at	19470_at	
13495_s_at	15451_at	17109_s_at	19577_at	
13656_at	15452_at	17128_s_at	19597_s_at	



TABLE 6: 2X DOWN COLD, ONLY

11991_g_at	12450_s_at	12881_s_at	13151_g_at	13621_g_at	14056_at
11992_at	12474_at	12889_s_at	13160_at	13623_r_at	14057_at
12001_at	12491_at	12901_s_at	13161_at	13629_s_at	14061_at
12006_s_at	12497_at	12902_at	13162_at	13631_at	14067_at
12007_at	12500_s_at	12904_s_at	13165_at	13635_at	14068_s_at
12009_at	12515_at	12905_s_at	13166_at	13646_at	14072_at
12022_at	12521_at	12908_s_at	13185_at	13650_at	14074_at
12023_s_at	12523_at	12910_s_at	13193_s_at	13652_at	14075_at
12026_at	12526_at	12916_s_at	13211_s_at	13653_at	14083_at
12037_at	12527_at	12923_s_at	13213_s_at	13655_at	14084_at
12052_at	12534_g_at	12926_s_at	13219_s_at	13657_at	14089_at
12125_at	12549_s_at	12931_s_at	13233_at	13666_s_at	14095_s_at
12143_at	12550_s_at	12937_r_at	13236_s_at	13667_s_at	14096_at
12149_at	12552_at	12941_g_at	13239_s_at	13669_s_at	14100_at
12156_at	12555_s_at	12942_at	13241_s_at	13670_s_at	14101_at
12166_i_at	12556_at	12949_at	13254_s_at	13672_s_at	14103_at
12167_at	12575_s_at	12953_at	13266_s_at	13678_s_at	14121_at
12169_i_at	12576_s_at	12958_at	13273_s_at	13679_s_at	14129_s_at
12176_at	12581_s_at	12959_at	13275_f_at	13688_s_at	14133_s_at
12179_at	12587_at	12966_s_at	13276_s_at	13690_s_at	14143_at
12196_at	12597_at	12975_at	13278_f_at	13691_s_at	14148_at
12198_at	12606_at	12983_at	13280_s_at	13692_s_at	14162_at
12200_at	12609_at	12984_at	13285_s_at	13714_at	14194_at
12202_at	12646_at	13002_at	13296_s_at	13724_at	14208_at
12212_at	12649_at	13009_i_at	13347_at	13748_at	14217_at
12214_g_at	12653_at	13011_at	13355_at	13751_at	14223_at
12224_at	12661_at	13014_at	13361_at	13759_at	14235_at
12226_at	12666_at	13024_at	13404_at	13767_at	14236_at
12233_at	12678_i_at	13034_s_at	13406_at	13789_at	14251_f_at
12240_at	12705_f_at	13041_s_at	13459_at	13876_at	14252_f_at
12253_g_at	12736_f_at	13048_s_at	13460_at	13880_s_at	14285_at
12270_at	12737_f_at	13067_s_at	13464_at	13883_at	14301_s_at
12278_at	12758_at	13068_at	13523_s_at	13887_s_at	14316_at
12284_at	12760_g_at	13073_s_at	13529_at	13895_at	14366_at
12287_s_at	12764_f_at	13078_s_at	13541_at	13906_s_at	14369_at
12293_at	12765_at	13079_at	13545_s_at	13919_at	14392_g_at
12294_s_at	12772_at	13081_s_at	13550_at	13923_at	14421_at
12300_at	12776_at	13083_at	13552_at	13932_at	14431_at
12312_at	12784_at	13090_at	13556_i_at	13935_at	14436_at
12315_at	12793_at	13092_s_at	13561_at	13940_at	14448_at
12324_i_at	12794_at	13098_at	13563_s_at	13949_s_at	14450_at
12331_s_at	12795_at	13103_at	13567_at	13954_g_at	14454_at
12344_at	12809_g_at	13105_at	13568_at	13973_at	14459_at
12348_at	12812_at	13107_s_at	13571_at	13983_at	14478_at
12353_at	12815_at	13108_at	13576_at	13989_at	14482_at
12372_at	12816_at	13114_at	13583_at	14010_at	14485_at
12374_i_at	12818_at	13118_f_at	13598_at	14014_at	14492_s_at
12405_at	12824_s_at	13123_at	13601_at	14015_s_at	14505_at
12408_at	12828_s_at	13124_at	13604_at	14016_s_at	14510_at
12410_g_at	12842_s_at	13133_s_at	13613_at	14025_s_at	14517_at
12419_at	12846_s_at	13135_s_at	13616_s_at	14027_at	14519_at
12427_at	12858_at	13139_at	13618_s_at	14030_at	14534_s_at
12438_at	12869_s_at	13146_s_at	13619_at	14044_at	14538_r_at

TABLE 6 (cont): 2X DOWN COLD, ONLY

14558_at	15047_at	15512_at	15940_at	16357_at	16894_at
14559_s_at	15054_at	15514_at	15948_s_at	16380_at	16899_at
14572_at	15056_at	15515_r_at	15956_at	16382_at	16920_at
14584_at	15058_s_at	15529_at	15976_at	16385_s_at	16921_at
14587_at	15063_at	15534_f_at	15978_at	16393_s_at	16924_s_at
14595_at	15066_at	15538_at	15986_s_at	16402_s_at	16926_s_at
14602_at	15081_at	15541_at	16004_s_at	16417_s_at	16931_s_at
14603_at	15091_at	15543_at	16015_at	16442_s_at	16934_s_at
14605_at	15097_s_at	15551_at	16017_at	16446_at	16937_at
14620_s_at	15102_s_at	15574_s_at	16019_at	16448_g_at	16938_at
14626_s_at	15107_s_at	15576_s_at	16024_at	16453_s_at	16942_at
14630_s_at	15118_s_at	15577_s_at	16031_at	16457_s_at	16949_s_at
14637_s_at	15127_s_at	15578_s_at	16055_s_at	16470_s_at	16950_s_at
14640_s_at	15130_s_at	15581_s_at	16059_s_at	16481_s_at	16952_s_at
14642_f_at	15132_s_at	15583_s_at	16065_s_at	16510_at	16962_s_at
14650_s_at	15133_s_at	15591_s_at	16066_s_at	16512_s_at	16965_s_at
14654_s_at	15139_s_at	15595_s_at	16069_s_at	16514_at	16970_s_at
14667_s_at	15143_s_at	15602_f_at	16074_s_at	16516_at	16977_at
14668_s_at	15146_s_at	15606_s_at	16076_s_at	16523_s_at	16984_at
14669_s_at	15150_s_at	15608_s_at	16077_s_at	16526_at	16989_at
14672_s_at	15161_s_at	15616_s_at	16084_s_at	16528_at	16993_at
14673_s_at	15162_s_at	15618_s_at	16089_s_at	16531_s_at	16997_at
14675_s_at	15167_s_at	15620_s_at	16102_s_at	16535_s_at	17000_at
14679_s_at	15170_s_at	15627_s_at	16103_s_at	16537_s_at	17005_at
14681_g_at	15171_s_at	15634_s_at	16105_s_at	16543_s_at	17010_s_at
14682_i_at	15178_s_at	15637_s_at	16108_s_at	16544_s_at	17017_s_at
14689_at	15182_s_at	15642_s_at	16112_s_at	16550_s_at	17031_s_at
14701_s_at	15185_s_at	15643_s_at	16117_s_at	16559_s_at	17040_s_at
14703_at	15188_s_at	15646_s_at	16118_s_at	16567_s_at	17053_s_at
14712_s_at	15193_s_at	15651_f_at	16125_s_at	16577_s_at	17056_s_at
14713_s_at	15196_s_at	15652_s_at	16127_s_at	16579_s_at	17063_s_at
14715_s_at	15201_f_at	15667_s_at	16134_s_at	16580_s_at	17070_s_at
14734_s_at	15206_s_at	15668_s_at	16136_s_at	16583_s_at	17074_s_at
14781_at	15207_s_at	15670_s_at	16138_s_at	16584_s_at	17084_s_at
14800_at	15213_s_at	15671_s_at	16140_s_at	16593_s_at	17085_s_at
14856_s_at	15243_at	15675_s_at	16143_s_at	16598_s_at	17087_s_at
14882_at	15256_at	15679_s_at	16144_s_at	16603_s_at	17092_s_at
14908_at	15348_at	15685_s_at	16145_s_at	16604_s_at	17095_s_at
14912_at	15350_at	15688_s_at	16148_s_at	16611_s_at	17096_s_at
14914_at	15372_at	15689_s_at	16151_s_at	16614_s_at	17097_s_at
14924_at	15383_at	15692_s_at	16158_f_at	16617_s_at	17103_s_at
14942_at	15384_at	15775_at	16160_f_at	16618_s_at	17105_s_at
14945_at	15385_at	15776_at	16168_s_at	16620_s_at	17110_s_at
14955_at	15387_at	15845_at	16169_s_at	16631_s_at	17115_s_at
14957_s_at	15406_at	15848_at	16171_s_at	16634_s_at	17116_s_at
14974_at	15423_at	15858_at	16172_s_at	16639_s_at	17119_s_at
14980_at	15431_at	15866_s_at	16222_at	16640_s_at	17122_s_at
14981_at	15464_at	15894_at	16232_s_at	16652_s_at	17207_at
14995_at	15468_at	15900_at	16242_at	16654_at	17215_at
15009_at	15471_at	15901_at	16288_at	16777_at	17247_at
15018_at	15475_s_at	15902_at	16294_s_at	16784_at	17254_at
15024_at	15485_at	15913_at	16325_at	16811_at	17286_at
15026_at	15505_at	15928_at	16346_s_at	16893_at	17288_s_at

TABLE 6 (cont): 2X DOWN COLD, ONLY

17292_at	17910_at	18337_s_at	18823_s_at	19382_at	19897_s_at
17303_s_at	17916_at	18339_at	18844_at	19401_at	19903_at
17305_at	17917_s_at	18365_s_at	18859_at	19402_at	19905_at
17318_at	17918_at	18402_at	18864_at	19406_at	19906_at
17323_at	17926_s_at	18439_s_at	18880_at	19413_at	19907_at
17374_at	17935_at	18487_at	18883_g_at	19416_at	19910_at
17405_at	17956_i_at	18508_s_at	18886_at	19429_at	19920_s_at
17415_at	17961_at	18512_at	18892_s_at	19432_s_at	19932_at
17418_s_at	17966_at	18543_at	18909_s_at	19439_at	19951_at
17420_at	17978_s_at	18552_at	18911_at	19448_s_at	19962_at
17423_s_at	17986_s_at	18567_at	18913_s_at	19454_at	19963_at
17426_at	17993_at	18573_at	18916_s_at	19462_s_at	19969_at
17427_at	17998_s_at	18580_at	18921_g_at	19464_at	19970_s_at
17430_s_at	18003_at	18581_at	18950_at	19469_at	19972_at
17431_at	18005_at	18584_at	18951_s_at	19483_at	19981_at
17439_g_at	18010_s_at	18587_s_at	18956_at	19484_s_at	19990_at
17442_i_at	18013_r_at	18590_at	18966_at	19513_at	19996_at
17449_s_at	18023_s_at	18591_at	18972_at	19548_at	19999_s_at
17462_s_at	18029_g_at	18592_s_at	18994_at	19563_s_at	20009_s_at
17463_at	18030_i_at	18600_at	19030_at	19567_at	20013_at
17465_at	18045_at	18601_s_at	19039_at	19581_at	20017_at
17475_at	18046_s_at	18607_s_at	19068_i_at	19595_s_at	20018_at
17479_at	18059_i_at	18610_s_at	19108_at	19606_at	20024_s_at
17495_s_at	18064_r_at	18611_at	19115_at	19623_at	20045_at
17508_s_at	18065_r_at	18616_at	19117_s_at	19627_s_at	20047_at
17522_s_at	18074_at	18622_g_at	19122_at	19636_at	20048_at
17523_s_at	18076_s_at	18628_at	19125_s_at	19641_at	20050_at
17529_s_at	18077_at	18631_at	19127_at	19652_at	20051_at
17537_s_at	18078_at	18636_at	19135_at	19655_at	20058_at
17539_s_at	18081_at	18638_at	19144_at	19658_at	20067_at
17543_s_at	18083_r_at	18652_at	19157_s_at	19660_at	20069_at
17555_s_at	18085_r_at	18657_at	19158_at	19665_s_at	20099_at
17557_s_at	18091_at	18667_at	19177_at	19667_at	20100_at
17560_s_at	18154_s_at	18675_at	19192_at	19690_s_at	20113_s_at
17564_s_at	18165_at	18684_at	19198_at	19695_at	20123_at
17565_s_at	18174_at	18686_s_at	19222_at	19717_at	20127_s_at
17568_at	18221_at	18688_s_at	19226_g_at	19726_s_at	20129_at
17570_g_at	18226_s_at	18693_s_at	19227_at	19752_s_at	20133_i_at
17573_at	18230_at	18698_s_at	19230_at	19759_at	20152_at
17577_g_at	18237_at	18706_s_at	19232_s_at	19782_at	20154_at
17578_at	18255_at	18707_at	19263_at	19789_s_at	20173_at
17579_s_at	18257_at	18726_s_at	19285_at	19803_s_at	20178_s_at
17585_s_at	18258_s_at	18727_at	19332_at	19828_at	20183_at
17596_at	18274_s_at	18732_i_at	19346_at	19831_i_at	20188_at
17600_s_at	18275_at	18735_s_at	19347_at	19833_s_at	20189_at
17623_s_at	18278_at	18736_at	19361_s_at	19834_at	20197_at
17640_s_at	18283_at	18738_f_at	19362_at	19835_at	20200_at
17649_s_at	18290_at	18747_f_at	19363_at	19841_at	20210_g_at
17657_at	18291_at	18754_at	19364_at	19867_at	20213_at
17665_at	18299_s_at	18782_at	19365_s_at	19870_s_at	20229_at
17682_at	18300_at	18789_at	19373_at	19871_at	20232_s_at
17685_at	18306_at	18806_s_at	19379_at	19872_at	20255_at
17902_s_at	18327_s_at	18814_at	19381_at	19876_at	20278_s_at

TABLE 6 (cont): 2X DOWN COLD, ONLY

20284_at	20693_at
20288_g_at	20701_s_at
20294_at	20704_at
20312_s_at	20707_s_at
20331_at	20719_at
20335_s_at	
20350_s_at	
20354_s_at	
20355_at	
20369_s_at	
20378_g_at	
20383_at	
20385_s_at	
20387_at	
20399_at	
20409_g_at	
20420_at	
20429_s_at	
20439_at	
20440_at	
20444_at	
20445_at	
20449_at	
20474_at	
20480_s_at	
20495_s_at	
20499_at	
20501_at	
20516_at	
20520_s_at	
20530_s_at	
20538_s_at	
20547_at	
20558_at	
20561_at	
20567_at	
20571_at	
20590_at	
20592_at	
20594_at	
20608_s_at	
20612_s_at	
20616_at	
20620_g_at	
20635_s_at	
20637_at	
20643_at	
20654_s_at	
20670_at	
20674_s_at	
20684_at	
20685_at	
20689_s_at	

TABLE 7

## SALINE STRESS RESPONSIVE SEQUENCES

SEQ ID NO:	AFFYMETRIX ID NO:	SEQ ID NO:	AFFYMETRIX ID NO:	SEQ ID NO:	AFFYMETRIX ID NO:
2227	12011_S_AT	2275	13993_S_AT	2324	15965_AT
2228	12153_AT	2276	14000_AT	2325	15969_S_AT
2229	12180_AT	2277	14003_AT	2326	15975_S_AT
2230	12186_AT	2278	14032_AT	2327	15995_S_AT
2231	12216_AT	2279	14043_AT	2328	15998_S_AT
2232	12265_AT	2280	14070_AT		18090_S_AT
2233	12335_AT	2281	14267_AT	2329	16028_AT
2234	12449_S_AT	2282	14269_AT	2330	16050_AT
2235	12470_AT	2283	14418_AT	2331	16060_S_AT
2236	12479_AT	2284	14427_AT	2332	16067_S_AT
2237	12487_AT	2285	14501_AT	2333	16072_S_AT
2238	12493_G_AT	2286	14544_AT	2334	16088_F_AT
2239	12562_AT	2287	14546_S_AT	2335	16273_AT
2240	12685_AT	2288	14570_AT	2336	16314_AT
2241	12704_F_AT	2289	14596_AT	2337	16413_S_AT
2242	12709_F_AT	2290	14729_S_AT	2338	16414_AT
2243	12734_F_AT	2291	14874_AT	2339	16426_AT
2244	12739_S_AT	2292	14888_AT	2340	16436_AT
2245	12750_S_AT	2293	14951_AT	2341	16455_AT
2246	12761_S_AT	2294	14952_AT	2342	16502_AT
2247	12813_AT	2295	14959_AT	2343	16548_S_AT
2248	12845_S_AT	2296	14979_AT	2344	16568_S_AT
2249	12946_AT	2297	15006_AT	2345	16582_S_AT
2250	13003_S_AT	2298	15042_AT	2346	16589_S_AT
2251	13052_S_AT	2299	15049_AT	2347	16594_S_AT
2252	13094_AT	2300	15062_AT	2348	16613_S_AT
2253	13142_AT	2301	15108_S_AT	2349	16651_S_AT
2254	13172_S_AT	2302	15147_S_AT	2350	16668_AT
	17880_S_AT	2303	15175_S_AT	2351	16820_AT
2255	13198_I_AT	2304	15176_S_AT	2352	16987_S_AT
2256	13209_S_AT	2305	15186_S_AT	2353	16995_AT
	16165_S_AT		18696_S_AT	2354	17039_S_AT
2257	13229_S_AT	2306	15192_S_AT	2355	17273_AT
2258	13253_F_AT	2307	15208_S_AT	2356	17278_AT
2259	13344_S_AT	2308	15324_AT	2357	17433_AT
2260	13370_AT	2309	15371_AT	2358	17467_AT
2261	13387_AT	2310	15424_AT	2359	17566_AT
2262	13408_S_AT	2311	15463_AT	2360	17595_S_AT
2263	13429_AT	2312	15465_AT	2361	17744_S_AT
2264	13472_AT	2313	15497_S_AT	2362	17758_AT
2265	13526_AT	2314	15589_S_AT	2363	17864_AT
2266	13569_AT	2315	15636_S_AT	2364	17868_AT
2267	13614_AT	2316	15663_S_AT	2365	17876_AT
2268	13686_S_AT	2317	15770_AT	2366	17894_AT
2269	13718_AT	2318	15792_AT	2367	17942_S_AT
2270	13719_AT	2319	15855_AT	2368	18008_R_AT
2271	13902_AT	2320	15860_AT	2369	18027_AT
2272	13918_AT	2321	15891_AT	2370	18053_S_AT
2273	13944_AT	2322	15898_AT	2371	18062_AT
2274	13964_AT	2323	15909_AT	2372	18082_AT

TABLE 7 (cont)

2373	18121_S_AT	2426	20648_S_AT
2374	18240_S_AT	2427	20668_AT
2375	18248_S_AT		
2376	18264_AT		
2377	18276_AT		
2378	18287_AT		
2379	18310_AT		
2380	18367_S_AT		
2381	18506_AT		
2382	18605_S_AT		
2383	18618_S_AT		
2384	18626_AT		
2385	18666_S_AT		
2386	18834_AT		
2387	18847_AT		
2388	18896_AT		
2389	18899_S_AT		
2390	18973_AT		
2391	18983_S_AT		
2392	18988_AT		
2393	18998_S_AT		
2394	19065_AT		
2395	19119_I_AT		
	19121_AT		
2396	19207_AT		
2397	19220_AT		
2398	19284_AT		
2399	19315_AT		
2400	19348_AT		
2401	19403_S_AT		
2402	19437_S_AT		
2403	19502_AT		
2404	19609_AT		
2405	19645_AT		
2406	19742_AT		
2407	19863_AT		
2408	19873_AT		
2409	19891_AT		
2410	20004_S_AT		
2411	20053_AT		
2412	20138_AT		
2413	20193_AT		
2414	20199_AT		
2415	20220_AT		
2416	20239_G_AT		
2417	20297_AT		
2418	20324_S_AT		
2419	20353_AT		
2420	20362_AT		
2421	20389_AT		
2422	20546_AT		
2423	20600_AT		
2424	20623_AT		
2425	20629_AT		

TABLE 8: 2X UP IN SALT, ONLY

12037_at	14570_at	16190_at	18506_at	20648_s_at
12137_at	14578_s_at	16196_at	18605_s_at	20678_at
12153_at	14596_at	16273_at	18626_at	20686_at
12186_at	14646_s_at	16314_at	18666_s_at	20707_s_at
12216_at	14662_f_at	16413_s_at	18747_f_at	
12268_at	14668_s_at	16414_at	18782_at	
12449_s_at	14729_s_at	16417_s_at	18834_at	
12470_at	14874_at	16455_at	18847_at	
12476_at	14888_at	16548_s_at	18913_s_at	
12487_at	14918_at	16582_s_at	18973_at	
12493_g_at	14952_at	16589_s_at	18988_at	
12609_at	14959_at	16594_s_at	18998_s_at	
12685_at	14986_at	16613_s_at	19065_at	
12704_f_at	15006_at	16651_s_at	19068_i_at	
12709_f_at	15042_at	16668_at	19123_at	
12734_f_at	15047_at	16690_g_at	19177_at	
12739_s_at	15062_at	16762_at	19220_at	
12750_s_at	15063_at	16820_at	19284_at	
12761_s_at	15108_s_at	16873_i_at	19288_at	
12819_at	15133_s_at	16987_s_at	19315_at	
12845_s_at	15147_s_at	16989_at	19437_s_at	
12946_at	15170_s_at	16995_at	19484_s_at	
13142_at	15175_s_at	17039_s_at	19502_at	
13198_i_at	15182_s_at	17040_s_at	19503_at	
13229_s_at	15190_s_at	17400_s_at	19592_at	
13275_f_at	15192_s_at	17425_s_at	19645_at	
13344_s_at	15324_at	17433_at	19742_at	
13370_at	15392_at	17467_at	19835_at	
13408_s_at	15424_at	17490_s_at	19873_at	
13464_at	15467_at	17529_s_at	19891_at	
13472_at	15497_s_at	17543_s_at	19992_at	
13526_at	15581_s_at	17566_at	20004_s_at	
13614_at	15623_f_at	17595_s_at	20053_at	
13652_at	15636_s_at	17744_s_at	20133_i_at	
13679_s_at	15646_s_at	17758_at	20138_at	
13751_at	15670_s_at	17855_at	20190_at	
13918_at	15770_at	17864_at	20199_at	
13919_at	15775_at	17876_at	20200_at	
13944_at	15778_at	18008_r_at	20297_at	
13964_at	15792_at	18013_r_at	20324_s_at	
13987_s_at	15855_at	18024_s_at	20335_s_at	
13993_s_at	15891_at	18027_at	20353_at	
14000_at	15909_at	18053_s_at	20362_at	
14032_at	15923_at	18078_at	20385_s_at	
14043_at	15969_s_at	18082_at	20389_at	
14052_at	15975_s_at	18090_s_at	20402_s_at	
14067_at	15995_s_at	18091_at	20450_at	
14070_at	15998_s_at	18121_s_at	20468_at	
14269_at	16017_at	18264_at	20489_at	
14285_at	16050_at	18276_at	20546_at	
14427_at	16067_s_at	18300_at	20569_s_at	
14501_at	16072_s_at	18367_s_at	20600_at	
14540_at	16165_s_at	18471_at	20623_at	

TABLE 9: 2X UP SALT, 3 HR ONLY

12037_at	15042_at	16987_s_at	20004_s_at
12137_at	15047_at	16989_at	20053_at
12153_at	15062_at	17039_s_at	20133_i_at
12186_at	15063_at	17040_s_at	20138_at
12216_at	15108_s_at	17425_s_at	20190_at
12268_at	15133_s_at	17433_at	20199_at
12470_at	15147_s_at	17490_s_at	20200_at
12476_at	15170_s_at	17543_s_at	20220_at
12487_at	15175_s_at	17744_s_at	20362_at
12493_g_at	15182_s_at	17864_at	20385_s_at
12609_at	15190_s_at	17876_at	20389_at
12685_at	15192_s_at	18008_r_at	20489_at
12704_f_at	15324_at	18013_r_at	20546_at
12709_f_at	15424_at	18024_s_at	20623_at
12734_f_at	15467_at	18027_at	20648_s_at
12739_s_at	15497_s_at	18053_s_at	20678_at
12750_s_at	15623_f_at	18078_at	20707_s_at
12819_at	15636_s_at	18082_at	
12946_at	15646_s_at	18090_s_at	
13142_at	15670_s_at	18091_at	
13229_s_at	15770_at	18121_s_at	
13275_f_at	15775_at	18264_at	
13370_at	15778_at	18276_at	
13408_s_at	15792_at	18367_s_at	
13464_at	15855_at	18471_at	
13472_at	15891_at	18506_at	
13614_at	15909_at	18605_s_at	
13652_at	15923_at	18626_at	
13679_s_at	15969_s_at	18666_s_at	
13918_at	15975_s_at	18747_f_at	
13919_at	15995_s_at	18782_at	
13944_at	15998_s_at	18834_at	
13987_s_at	16017_at	18847_at	
13993_s_at	16050_at	18913_s_at	
14000_at	16067_s_at	18973_at	
14032_at	16072_s_at	18988_at	
14043_at	16165_s_at	19065_at	
14052_at	16196_at	19068_i_at	
14067_at	16273_at	19123_at	
14269_at	16314_at	19177_at	
14285_at	16414_at	19220_at	
14501_at	16417_s_at	19288_at	
14540_at	16455_at	19315_at	
14570_at	16548_s_at	19437_s_at	
14596_at	16582_s_at	19484_s_at	
14668_s_at	16589_s_at	19502_at	
14729_s_at	16594_s_at	19503_at	
14888_at	16613_s_at	19592_at	
14918_at	16651_s_at	19645_at	
14952_at	16668_at	19742_at	
14959_at	16762_at	19835_at	
14986_at	16820_at	19873_at	
15006_at	16873_i_at	19891_at	



TABLE 10: 2X DOWN SALT, ONLY

12011_s_at	16046_s_at	20239_g_at
12180_at	16060_s_at	20433_at
12265_at	16088_f_at	20629_at
12335_at	16150_s_at	20668_at
12479_at	16166_s_at	
12562_at	16316_at	
12656_at	16340_at	
12813_at	16367_i_at	
13003_s_at	16426_at	
13052_s_at	16427_at	
13094_at	16436_at	
13178_at	16489_at	
13253_f_at	16502_at	
13387_at	16568_s_at	
13429_at	16638_s_at	
13472_at	16646_s_at	
13569_at	17273_at	
13686_s_at	17278_at	
13718_at	17567_at	
13719_at	17868_at	
13902_at	17880_s_at	
14003_at	17894_at	
14144_at	17901_at	
14267_at	17942_s_at	
14418_at	17960_at	
14544_at	17999_at	
14546_s_at	18062_at	
14636_s_at	18240_s_at	
14951_at	18248_s_at	
14956_s_at	18267_at	
14979_at	18279_s_at	
14990_at	18287_at	
15040_g_at	18310_at	
15049_at	18351_s_at	
15115_f_at	18455_at	
15137_s_at	18560_at	
15148_s_at	18571_at	
15176_s_at	18618_s_at	
15208_s_at	18896_at	
15371_at	18899_s_at	
15453_s_at	18967_s_at	
15463_at	18983_s_at	
15465_at	19119_i_at	
15589_s_at	19121_at	
15663_s_at	19207_at	
15860_at	19348_at	
15898_at	19403_s_at	
15931_at	19609_at	
15965_at	19742_at	
15970_s_at	19826_at	
15972_s_at	19863_at	
16005_s_at	19883_at	
16028_at	20193_at	

TABLE 11

## OSMOTIC STRESS RESPONSIVE SEQUENCES

SEQ	AFFYMETRIX	SEQ	AFFYMETRIX	SEQ	AFFYMETRIX
ID NO:	ID NO:	ID NO:	ID NO:	ID NO:	ID NO:
2428	11994_AT	2475	13995_AT	2523	17037_S_AT
2429	12028_AT	2476	14062_AT	2524	17054_S_AT
2430	12033_AT	2477	14118_I_AT	2525	17257_S_AT
2431	12039_AT	2478	14141_AT		18725_S_AT
2432	12068_AT	2479	14310_AT	2526	17270_AT
2433	12096_AT	2480	14354_AT	2527	17275_I_AT
2434	12110_AT	2481	14476_AT	2528	17376_AT
2435	12114_AT	2482	14513_S_AT	2529	17378_AT
2436	12135_AT	2483	14568_S_AT	2530	17468_AT
2437	12139_AT	2484	14604_AT	2531	17481_AT
2438	12189_AT	2485	14634_S_AT	2532	17511_S_AT
2439	12191_AT	2486	14660_S_AT	2533	17519_S_AT
2440	12211_AT	2487	14666_S_AT	2534	17815_S_AT
2441	12223_S_AT	2488	14686_S_AT	2535	17897_AT
2442	12366_S_AT		17464_AT	2536	17923_S_AT
	12869_S_AT	2489	14726_S_AT	2537	17934_AT
2443	12381_AT	2490	14848_S_AT	2538	17937_S_AT
2444	12406_S_AT	2491	14873_AT	2539	17944_AT
2445	12412_AT	2492	14883_AT	2540	17958_AT
2446	12453_AT	2493	15082_AT	2541	18216_AT
2447	12571_S_AT	2494	15121_S_AT	2542	18227_AT
2448	12662_AT		16014_S_AT	2543	18284_AT
2449	12746_I_AT	2495	15168_S_AT	2544	18301_S_AT
2450	12774_AT	2496	15271_AT	2545	18312_S_AT
2451	12787_AT	2497	15338_AT	2546	18326_S_AT
2452	12847_AT	2498	15418_AT	2547	18369_AT
2453	12848_AT	2499	15429_AT	2548	18411_AT
2454	12895_AT	2500	15548_AT	2549	18533_AT
2455	12911_S_AT	2501	15666_S_AT	2550	18576_S_AT
2456	12920_AT	2502	15672_S_AT	2551	18599_AT
	12921_S_AT	2503	15680_S_AT	2552	18640_AT
2457	13027_AT	2504	15867_AT	2553	18672_S_AT
2458	13059_AT	2505	15918_AT	2554	18720_S_AT
2459	13075_I_AT	2506	15999_S_AT	2555	18768_AT
2460	13180_S_AT	2507	16303_AT	2556	18877_AT
2461	13255_I_AT	2508	16363_AT	2557	18942_AT
2462	13270_AT	2509	16440_S_AT	2558	18945_AT
	18167_S_AT	2510	16458_S_AT	2559	18960_AT
2463	13283_S_AT	2511	16475_AT	2560	18965_AT
2464	13382_AT	2512	16513_S_AT	2561	19060_AT
2465	13386_S_AT	2513	16529_AT	2562	19164_G_AT
2466	13433_AT	2514	16547_S_AT	2563	19266_AT
2467	13482_AT	2515	16553_F_AT	2564	19366_S_AT
2468	13732_AT	2516	16563_S_AT	2565	19369_AT
2469	13733_I_AT	2517	16629_S_AT	2566	19371_AT
2470	13842_AT	2518	16797_AT	2567	19386_AT
2471	13860_S_AT	2519	16814_AT	2568	19412_AT
2472	13868_AT	2520	16832_AT	2569	19427_S_AT
2473	13901_AT	2521	16976_S_AT	2570	19622_G_AT
2474	13933_AT	2522	17007_AT	2571	19681_AT

**TABLE 11 (cont)**

2572	19819_S_AT
2573	19961_S_AT
2574	20002_AT
2575	20034_I_AT
2576	20062_AT
2577	20136_AT
2578	20223_AT
2579	20235_I_AT
2580	20401_AT
2581	20407_AT
2582	20470_AT
2583	20626_AT
2584	20631_S_AT
2585	20647_AT

TABLE 12: 2X UP IN MANNITOL, ONLY

12039_at	16832_at
12068_at	16993_at
12139_at	17037_s_at
12212_at	17054_s_at
12278_at	17083_s_at
12366_s_at	17097_s_at
12453_at	17119_s_at
12556_at	17270_at
12575_s_at	17305_at
12746_i_at	17376_at
12848_at	17378_at
12869_s_at	17449_s_at
12920_at	17481_at
12921_s_at	17533_s_at
13041_s_at	17832_s_at
13059_at	17923_s_at
13241_s_at	17944_at
13255_i_at	18059_i_at
13270_at	18216_at
13382_at	18230_at
13406_at	18255_at
13433_at	18284_at
13550_at	18301_s_at
13672_s_at	18312_s_at
13716_at	18326_s_at
13842_at	18599_at
13933_at	18672_s_at
13995_at	18720_s_at
14062_at	18768_at
14075_at	18814_at
14162_at	18877_at
14208_at	18921_g_at
14217_at	18960_at
14235_at	19060_at
14310_at	19182_at
14431_at	19192_at
14513_s_at	19266_at
14584_at	19369_at
14604_at	19386_at
14673_s_at	19402_at
14856_s_at	19412_at
15207_s_at	19432_s_at
15338_at	19469_at
15406_at	19622_g_at
15418_at	19819_s_at
15591_s_at	19826_at
15666_s_at	20152_at
15680_s_at	20223_at
15866_s_at	20235_i_at
15918_at	20365_s_at
16340_at	20470_at
16553_f_at	20537_at
16797_at	20547_at

TABLE 13: 2X UP IN MANNITOL, 3 HR ONLY

12039_at	17449_s_at
12068_at	17481_at
12139_at	17533_s_at
12212_at	17923_s_at
12278_at	17944_at
12366_s_at	18059_i_at
12453_at	18216_at
12556_at	18230_at
12575_s_at	18255_at
12746_i_at	18301_s_at
12848_at	18312_s_at
12869_s_at	18326_s_at
12920_at	18599_at
12921_s_at	18720_s_at
13041_s_at	18768_at
13059_at	18814_at
13241_s_at	18877_at
13382_at	18921_g_at
13406_at	18960_at
13433_at	19060_at
13550_at	19192_at
13672_s_at	19266_at
13933_at	19369_at
13995_at	19386_at
14062_at	19402_at
14075_at	19412_at
14162_at	19432_s_at
14217_at	19469_at
14310_at	19622_g_at
14431_at	19819_s_at
14513_s_at	20152_at
14584_at	20223_at
14604_at	20235_i_at
14673_s_at	20365_s_at
14856_s_at	20470_at
15207_s_at	20537_at
15338_at	
15418_at	
15591_s_at	
15866_s_at	
15918_at	
16340_at	
16553_f_at	
16797_at	
16832_at	
17037_s_at	
17054_s_at	
17083_s_at	
17097_s_at	
17270_at	
17305_at	
17376_at	
17378_at	

TABLE 14: 2X DOWN IN MANNITOL, ONLY

12028_at	14897_at	17958_at
12033_at	14918_at	18012_s_at
12110_at	15082_at	18227_at
12114_at	15084_at	18272_at
12189_at	15098_s_at	18331_s_at
12191_at	15105_s_at	18369_at
12211_at	15121_s_at	18411_at
12223_s_at	15126_s_at	18533_at
12268_at	15168_s_at	18576_s_at
12345_at	15271_at	18640_at
12381_at	15429_at	18696_s_at
12406_s_at	15548_at	18945_at
12412_at	15672_s_at	18949_at
12522_at	15753_at	18953_at
12571_s_at	15867_at	18965_at
12662_at	15999_s_at	19164_g_at
12787_at	16001_at	19322_at
12847_at	16021_s_at	19366_s_at
12895_at	16190_at	19371_at
12911_s_at	16260_at	19397_at
13027_at	16303_at	19427_s_at
13075_i_at	16363_at	19681_at
13221_at	16458_s_at	19707_s_at
13262_s_at	16468_at	19839_at
13283_s_at	16475_at	19961_s_at
13386_s_at	16513_s_at	19976_at
13447_s_at	16529_at	19998_at
13482_at	16563_s_at	20002_at
13634_s_at	16690_g_at	20034_i_at
13709_s_at	16814_at	20136_at
13732_at	16847_at	20382_s_at
13733_i_at	16927_s_at	20407_at
13812_s_at	16976_s_at	20529_at
13825_s_at	17007_at	20626_at
13860_s_at	17014_s_at	20631_s_at
13868_at	17016_s_at	20647_at
13901_at	17071_s_at	20699_at
14052_at	17090_s_at	
14224_at	17257_s_at	
14244_s_at	17275_i_at	
14254_s_at	17424_at	
14256_f_at	17464_at	
14354_at	17468_at	
14476_at	17511_s_at	
14568_s_at	17519_s_at	
14634_s_at	17525_s_at	
14646_s_at	17645_s_at	
14660_s_at	17741_at	
14686_s_at	17815_s_at	
14726_s_at	17897_at	
14848_s_at	17899_at	
14873_at	17934_at	
14883_at	17937_s_at	

TABLE 15

## COLD &amp; OSOMOTIC STRESS RESPONSIVE SEQUENCES

SEQ AFFYMETRIX	SEQ AFFYMETRIX	SEQ AFFYMETRIX
ID NO: ID NO:	ID NO: ID NO:	ID NO: ID NO:
1699 12040_AT	1742 13262_S_AT	1787 14431_AT
1700 12048_AT	1743 13286_S_AT	1788 14480_AT
1701 12054_S_AT	1744 13324_AT	1789 14497_AT
1702 12077_AT	1745 13340_S_AT	1790 14553_AT
1703 12107_I_AT	1746 13361_AT	1791 14584_AT
1704 12113_AT	1747 13406_AT	1792 14600_AT
1705 12154_AT	1748 13441_S_AT	1793 14673_S_AT
1706 12171_AT	1749 13513_AT	19432_S_AT
1707 12212_AT	1750 13550_AT	1794 14681_G_AT
1708 12278_AT	1751 13573_AT	1795 14699_AT
1709 12317_AT	1752 13577_S_AT	1796 14751_AT
1710 12325_AT	1753 13606_AT	1797 14762_AT
1711 12333_AT	1754 13609_AT	1798 14828_S_AT
1712 12345_AT	1755 13625_S_AT	1799 14856_S_AT
1713 12349_S_AT	1756 13626_AT	1800 14882_AT
14254_S_AT	1757 13634_S_AT	1801 14897_AT
14256_F_AT	1758 13672_S_AT	1802 14978_AT
1714 12356_AT	18916_S_AT	1803 14985_S_AT
1715 12380_AT	1759 13709_S_AT	1804 15031_AT
1716 12392_AT	1760 13736_AT	1805 15084_AT
1717 12460_S_AT	1761 13775_AT	1806 15096_AT
1718 12556_AT	1762 13810_AT	1807 15105_S_AT
1719 12575_S_AT	1763 13812_S_AT	1808 15110_S_AT
1720 12686_S_AT	1764 13825_S_AT	1809 15111_S_AT
1721 12701_I_AT	1765 14015_S_AT	1810 15120_S_AT
1722 12754_G_AT	14016_S_AT	1811 15126_S_AT
1723 12782_R_AT	1766 14029_AT	1812 15142_S_AT
1724 12784_AT	1767 14036_AT	1813 15144_S_AT
1725 12879_S_AT	1768 14051_AT	1814 15184_S_AT
1726 12891_AT	1769 14060_AT	1815 15198_S_AT
16817_S_AT	1770 14064_AT	1816 15203_S_AT
1727 12898_G_AT	1771 14066_AT	1817 15207_S_AT
1728 12974_AT	1772 14075_AT	1818 15240_AT
1729 12998_AT	1773 14094_S_AT	1819 15366_AT
1730 13041_S_AT	19999_S_AT	1820 15398_AT
1731 13124_AT	1774 14096_AT	1821 15406_AT
1732 13134_S_AT	1775 14104_AT	1822 15448_AT
1733 13144_AT	1776 14123_S_AT	1823 15466_AT
1734 13147_AT	1777 14126_S_AT	1824 15481_AT
1735 13152_S_AT	1778 14131_AT	1825 15484_AT
1736 13187_I_AT	1779 14136_AT	1826 15549_AT
16981_S_AT	1780 14139_AT	1827 15591_S_AT
1737 13192_S_AT	14140_AT	1828 15606_S_AT
17525_S_AT	1781 14162_AT	1829 15614_S_AT
1738 13212_S_AT	14217_AT	16927_S_AT
	1782 14178_AT	1830 15629_S_AT
1739 13215_S_AT	1783 14201_AT	1831 15633_S_AT
16649_S_AT	1784 14208_AT	1832 15641_S_AT
1740 13241_S_AT	1785 14235_AT	18012_S_AT
1741 13246_AT	1786 14242_S_AT	1833 15720_AT

TABLE 15 (cont)

1834	15815_S_AT	1884	17452_G_AT	1936	19469_AT
1835	15817_AT	1885	17540_S_AT	1937	19473_AT
1836	15837_AT	1886	17552_S_AT	1938	19597_S_AT
1837	15841_AT	1887	17571_AT	1939	19710_S_AT
1838	15866_S_AT	1888	17589_AT	1940	19830_AT
	18255_AT	1889	17641_G_AT	1941	19839_AT
1839	15872_AT	1890	17741_AT	1942	19840_S_AT
	18331_S_AT		18098_AT	1943	19853_AT
1840	15892_AT	1891	17766_AT	1944	19860_AT
1841	15933_AT	1892	17873_S_AT	1945	19880_AT
1842	15947_AT	1893	17904_AT	1946	19889_AT
1843	15959_S_AT	1894	17920_S_AT	1947	19898_AT
1844	16001_AT	1895	17925_AT	1948	19914_AT
1845	16052_AT	1896	17943_AT	1949	19924_AT
1846	16161_S_AT	1897	18059_I_AT	1950	19949_AT
1847	16204_AT	1898	18230_AT	1951	19976_AT
1848	16232_S_AT	1899	18263_AT	1952	19998_AT
1849	16252_AT	1900	18272_AT	1953	20030_AT
1850	16260_AT	1901	18540_AT	1954	20151_AT
1851	16266_AT	1902	18608_AT	1955	20152_AT
1852	16299_AT	1903	18647_AT	1956	20187_AT
1853	16365_AT	1904	18662_S_AT	1957	20214_I_AT
1854	16468_AT	1905	18664_AT	1958	20269_AT
1855	16477_AT	1906	18695_S_AT	1959	20271_AT
1856	16491_AT	1907	18704_AT	1960	20273_AT
1857	16523_S_AT	1908	18814_AT	1961	20299_AT
1858	16566_S_AT	1909	18907_S_AT	1962	20323_AT
1859	16570_S_AT	1910	18921_G_AT	1963	20429_S_AT
1860	16688_AT	1911	18924_AT	1964	20457_AT
1861	16840_AT	1912	18949_AT	1965	20480_S_AT
1862	16847_AT		19707_S_AT	1966	20529_AT
1863	16893_AT	1913	18995_AT	1967	20547_AT
1864	16896_S_AT	1914	19017_AT	1968	20555_S_AT
1865	16898_S_AT	1915	19034_AT	1969	20699_AT
1866	16912_S_AT	1916	19063_AT		
1867	16980_AT	1917	19142_AT		
1868	16993_AT	1918	19158_AT		
1869	17008_AT	1919	19180_AT		
1870	17012_S_AT	1920	19187_AT		
1871	17014_S_AT	1921	19192_AT		
1872	17016_S_AT	1922	19195_AT		
1873	17032_S_AT	1923	19199_AT		
1874	17050_S_AT	1924	19231_AT		
	17051_S_AT	1925	19263_AT		
1875	17071_S_AT	1926	19308_AT		
1876	17090_S_AT	1927	19322_AT		
	18690_S_AT	1928	19365_S_AT		
1877	17097_S_AT	1929	19372_AT		
1878	17104_S_AT	1930	19389_AT		
1879	17119_S_AT	1931	19392_AT		
1880	17160_AT	1932	19397_AT		
1881	17305_AT	1933	19400_AT		
1882	17424_AT	1934	19402_AT		
1883	17449_S_AT	1935	19458_AT		



TABLE 16: 2X UP IN MANNITOL &amp; COLD, ONLY

12345_at	17066_s_at
12784_at	17540_s_at
13153_r_at	17567_at
13212_s_at	17766_at
13215_s_at	17904_at
13246_at	17920_s_at
13262_s_at	17943_at
13361_at	18263_at
13625_s_at	18351_s_at
13764_at	18662_s_at
13810_at	18670_g_at
14015_s_at	18695_s_at
14016_s_at	18704_at
14060_at	18729_at
14096_at	18995_at
14123_s_at	19158_at
14139_at	19473_at
14219_at	19710_s_at
14248_at	19883_at
14254_s_at	19889_at
14256_f_at	20030_at
14609_at	20269_at
14636_s_at	20271_at
14681_g_at	20299_at
14699_at	20429_s_at
14704_s_at	20438_at
14828_s_at	20480_s_at
14882_at	
15110_s_at	
15184_s_at	
15448_at	
15629_s_at	
15720_at	
15846_at	
15947_at	
16161_s_at	
16365_at	
16427_at	
16566_s_at	
16570_s_at	
16649_s_at	
16688_at	
16712_at	
16817_s_at	
16840_at	
16893_at	
16912_s_at	
16916_s_at	
16927_s_at	
16981_s_at	
17012_s_at	
17014_s_at	
17051_s_at	

TABLE 17: 2X DOWN COLD &amp; MANNITOL, ONLY

12040_at	14553_at	17873_s_at
12048_at	14612_at	17925_at
12054_s_at	14751_at	18098_at
12077_at	14762_at	18540_at
12107_i_at	14978_at	18608_at
12113_at	14985_s_at	18647_at
12154_at	15031_at	18664_at
12171_at	15096_at	18690_s_at
12317_at	15111_s_at	18725_s_at
12325_at	15120_s_at	18924_at
12333_at	15142_s_at	19017_at
12356_at	15198_s_at	19034_at
12380_at	15203_s_at	19063_at
12392_at	15240_at	19141_at
12460_s_at	15366_at	19142_at
12686_s_at	15392_at	19180_at
12701_i_at	15398_at	19187_at
12782_r_at	15466_at	19195_at
12879_s_at	15481_at	19199_at
12898_g_at	15484_at	19231_at
12974_at	15549_at	19308_at
12998_at	15623_f_at	19372_at
13144_at	15815_s_at	19392_at
13147_at	15817_at	19400_at
13152_s_at	15841_at	19458_at
13192_s_at	15892_at	19597_s_at
13286_s_at	15933_at	19762_at
13324_at	15959_s_at	19830_at
13340_s_at	16052_at	19853_at
13441_s_at	16204_at	19869_at
13513_at	16252_at	19880_at
13573_at	16266_at	19898_at
13606_at	16299_at	19914_at
13609_at	16477_at	19924_at
13626_at	16491_at	19949_at
13736_at	16561_s_at	20151_at
13775_at	16645_s_at	20187_at
14029_at	16898_s_at	20214_i_at
14036_at	16980_at	20273_at
14051_at	17008_at	20323_at
14064_at	17104_s_at	20457_at
14066_at	17160_at	20555_s_at
14094_s_at	17317_at	
14104_at	17400_s_at	
14126_s_at	17452_g_at	
14131_at	17477_s_at	
14136_at	17500_s_at	
14178_at	17552_s_at	
14192_at	17571_at	
14201_at	17572_s_at	
14242_s_at	17589_at	
14480_at	17641_g_at	
14497_at	17855_at	

TABLE 18

## COLD &amp; SALINE STRESS RESPONSIVE SEQUENCES

SEQ AFFYMETRIX	2018	13544_AT	2062	15047_AT
ID NO: ID NO:	2019	13549_AT	2063	15063_AT
1970 12021_AT	2020	13565_AT	2064	15085_S_AT
1971 12037_AT	SEQ AFFYMETRIX		2065	15123_S_AT
1972 12094_AT	ID NO: ID NO:		2066	15133_S_AT
1973 12098_AT	2021	13580_AT	2067	15137_S_AT
1974 12128_AT	2022	13588_AT	SEQ AFFYMETRIX	
1975 12148_AT	2023	13649_AT	ID NO: ID NO:	
1976 12151_AT	2024	13652_AT	2068	15153_S_AT
1977 12357_S_AT	2025	13679_S_AT	2069	15170_S_AT
1978 12394_AT	2026	13696_AT	2070	15172_S_AT
1979 12472_S_AT	2027	13702_S_AT	2071	15182_S_AT
1980 12475_AT	2028	13751_AT	2072	15190_S_AT
1981 12482_S_AT	2029	13919_AT	2073	15241_S_AT
1982 12490_AT	2030	13943_AT	2074	15389_AT
1983 12505_S_AT	2031	13950_S_AT	2075	15453_S_AT
1984 12531_AT	2032	14050_AT	2076	15495_AT
1985 12540_S_AT	2033	14055_S_AT	2077	15496_AT
1986 12541_AT		16166_S_AT	2078	15519_S_AT
1987 12577_AT	2034	14067_AT	2079	15562_AT
1988 12594_AT	2035	14078_AT	2080	15580_S_AT
1989 12629_AT	2036	14110_I_AT	2081	15582_S_AT
1990 12642_AT	2037	14144_AT	2082	15638_S_AT
1991 12656_AT	2038	14232_AT		18751_F_AT
1992 12660_AT	2039	14285_AT	2083	15646_S_AT
1993 12712_F_AT	2040	14346_AT	2084	15647_S_AT
1994 12725_R_AT	2041	14432_AT	2085	15654_S_AT
1995 12745_AT	2042	14468_AT	2086	15655_S_AT
1996 12777_I_AT	2043	14479_AT	2087	15658_S_AT
1997 12790_S_AT	2044	14524_S_AT	2088	15670_S_AT
1998 12798_AT	2045	14608_AT	2089	15775_AT
1999 12801_AT	2046	14621_AT	2090	15798_AT
2000 12855_F_AT	2047	14635_S_AT	2091	15930_AT
2001 12887_S_AT		17128_S_AT	2092	15931_AT
2002 12933_R_AT	2048	14640_S_AT	2093	15949_S_AT
2003 12951_AT	2049	14643_S_AT	2094	16017_AT
2004 13005_AT	2050	14663_S_AT	2095	16053_I_AT
2005 13015_S_AT	2051	14668_S_AT	2096	16078_S_AT
2006 13115_AT	2052	14688_S_AT	2097	16086_S_AT
2007 13178_AT		18279_S_AT	2098	16120_S_AT
2008 13228_AT	2053	14737_S_AT	2099	16126_S_AT
2009 13236_S_AT	2054	14768_AT	2100	16150_S_AT
	2055	14875_AT	2101	16159_S_AT
2010 16646_S_AT	2056	14911_S_AT	2102	16230_AT
		17056_S_AT	2103	16306_AT
2011 13275_F_AT	2057	14924_AT	2104	16367_I_AT
2012 13335_AT	2058	14956_S_AT	2105	16417_S_AT
2013 13362_S_AT		15148_S_AT		18083_R_AT
2014 13428_AT		18673_AT	2106	16418_S_AT
2015 13464_AT	2059	14964_AT	2107	16423_AT
2016 13480_AT	2060	15022_AT	2108	16449_S_AT
2017 13538_AT	2061	15040_G_AT	2109	16484_S_AT

TABLE 18 (cont)

2110	16489_AT	2163	18455_AT	2218	20565_AT
2111	16565_S_AT	2164	18459_AT	2219	20570_AT
2112	16596_S_AT	2165	18571_AT	2220	20576_AT
2113	16600_S_AT	2166	18604_AT	2221	20577_AT
2114	16603_S_AT		19181_S_AT	2222	20609_AT
2115	16638_S_AT	2167	18644_AT	2223	20646_AT
2116	16642_S_AT	2168	18745_F_AT	2224	20672_AT
2117	16763_AT		19611_S_AT	2225	20707_S_AT
2118	16914_S_AT	2169	18782_AT	2226	20720_AT
2119	16968_AT	2170	18881_AT		
2120	16983_AT	2171	18904_S_AT		
2121	16989_AT	2172	18914_S_AT		
2122	17002_AT	2173	18963_AT		
2123	17015_S_AT	2174	19068_I_AT		
2124	17040_S_AT	2175	19078_AT		
	18913_S_AT	2176	19171_AT		
2125	17232_AT	2177	19177_AT		
2126	17380_AT	2178	19394_AT		
2127	17394_S_AT	2179	19411_AT		
	20640_S_AT	2180	19415_AT		
2128	17398_AT	2181	19466_S_AT		
2129	17448_AT	2182	19484_S_AT		
2130	17485_S_AT	2183	19549_S_AT		
2131	17490_S_AT	2184	19592_AT		
2132	17499_S_AT	2185	19633_AT		
2133	17505_S_AT	2186	19641_AT		
2134	17516_S_AT	2187	19669_AT		
2135	17529_S_AT	2188	19672_AT		
2136	17543_S_AT	2189	19684_AT		
2137	17593_R_AT	2190	19692_AT		
	19858_S_AT	2191	19746_AT		
2138	17609_AT	2192	19835_AT		
2139	17698_AT	2193	19848_S_AT		
2140	17836_AT	2194	19892_AT		
2141	17886_AT	2195	19904_AT		
2142	17896_AT	2196	19936_AT		
2143	17901_AT	2197	19974_S_AT		
2144	17902_S_AT	2198	19994_AT		
2145	17913_S_AT	2199	20005_S_AT		
2146	17924_AT	2200	20022_AT		
2147	17954_S_AT	2201	20032_AT		
2148	17960_AT	2202	20044_AT		
2149	17991_G_AT	2203	20049_AT		
	18967_S_AT	2204	20081_AT		
2150	17999_AT	2205	20133_I_AT		
2151	18057_I_AT	2206	20155_S_AT		
2152	18078_AT	2207	20163_S_AT		
2153	18091_AT	2208	20200_AT		
2154	18168_S_AT	2209	20296_S_AT		
2155	18252_AT	2210	20336_AT		
2156	18267_AT	2211	20341_AT		
2157	18300_AT	2212	20372_AT		
2158	18308_I_AT	2213	20385_S_AT		
2159	18328_AT	2214	20433_AT		
2160	18354_AT	2215	20489_AT		
2161	18402_AT	2216	20525_AT		
2162	18416_AT	2217	20543_AT		

TABLE 19: 2X UP IN SALT &amp; COLD, ONLY

12004_at	15495_at	18745_f_at
12098_at	15496_at	18904_s_at
12148_at	15519_s_at	18914_s_at
12251_at	15580_s_at	18929_s_at
12357_s_at	15582_s_at	18946_at
12394_at	15776_at	18963_at
12457_at	15798_at	19078_at
12505_s_at	15910_at	19137_at
12522_at	15931_at	19141_at
12541_at	15937_at	19411_at
12594_at	15949_s_at	19641_at
12606_at	15972_s_at	19672_at
12697_at	16048_at	19684_at
12745_at	16086_s_at	19692_at
12781_at	16120_s_at	19746_at
12798_at	16126_s_at	19762_at
12855_f_at	16150_s_at	19869_at
12945_at	16159_s_at	19894_at
12951_at	16230_at	19904_at
13005_at	16306_at	19936_at
13015_s_at	16418_s_at	19994_at
13115_at	16423_at	20005_s_at
13146_s_at	16449_s_at	20031_at
13335_at	16565_s_at	20044_at
13447_s_at	16603_s_at	20382_s_at
13480_at	16763_at	20406_g_at
13544_at	16968_at	20421_at
13549_at	16983_at	20525_at
13580_at	17002_at	20543_at
13649_at	17015_s_at	20565_at
13943_at	17019_s_at	20570_at
13950_s_at	17078_s_at	20640_s_at
14110_i_at	17232_at	20646_at
14144_at	17317_at	20720_at
14224_at	17394_s_at	
14432_at	17516_s_at	
14468_at	17585_s_at	
14479_at	17609_at	
14524_s_at	17698_at	
14640_s_at	17836_at	
14643_s_at	17896_at	
14735_s_at	17899_at	
14737_s_at	17902_s_at	
14768_at	17960_at	
14784_at	17963_at	
14824_at	18168_s_at	
15064_at	18252_at	
15127_s_at	18267_at	
15186_s_at	18308_i_at	
15189_s_at	18354_at	
15255_at	18402_at	
15389_at	18459_at	
15482_at	18484_at	

TABLE 20: 2X DOWN IN COLD &amp; SALT, ONLY

12021_at	15123_s_at	19394_at
12094_at	15153_s_at	19415_at
12128_at	15172_s_at	19466_s_at
12151_at	15190_s_at	19549_s_at
12332_s_at	15211_s_at	19592_at
12472_s_at	15241_s_at	19633_at
12475_at	15437_at	19669_at
12482_s_at	15562_at	19848_s_at
12490_at	15638_s_at	19858_s_at
12531_at	15647_s_at	19878_at
12540_s_at	15654_s_at	19892_at
12577_at	15655_s_at	19974_s_at
12629_at	15658_s_at	20022_at
12642_at	15695_s_at	20032_at
12660_at	15846_at	20049_at
12676_s_at	15930_at	20081_at
12712_f_at	16053_i_at	20155_s_at
12725_r_at	16078_s_at	20163_s_at
12777_i_at	16229_at	20296_s_at
12790_s_at	16465_at	20336_at
12801_at	16484_s_at	20341_at
12887_s_at	16596_s_at	20365_s_at
12933_r_at	16600_s_at	20372_at
13153_r_at	16642_s_at	20489_at
13228_at	16914_s_at	20491_at
13362_s_at	17027_s_at	20576_at
13428_at	17066_s_at	20577_at
13538_at	17083_s_at	20609_at
13565_at	17128_s_at	20672_at
13588_at	17380_at	
13696_at	17398_at	
13702_s_at	17448_at	
13716_at	17485_s_at	
13764_at	17490_s_at	
14050_at	17499_s_at	
14055_s_at	17505_s_at	
14069_at	17514_s_at	
14078_at	17593_r_at	
14232_at	17886_at	
14346_at	17913_s_at	
14608_at	17924_at	
14609_at	17954_s_at	
14621_at	17991_q_at	
14635_s_at	18057_i_at	
14663_s_at	18069_at	
14688_s_at	18328_at	
14691_at	18416_at	
14704_s_at	18604_at	
14875_at	18644_at	
14911_s_at	18881_at	
14964_at	19171_at	
15022_at	19181_s_at	
15085_s_at	19182_at	

TABLE 21

## OSMOTIC &amp; SALINE STRESS RESPONSIVE SEQUENCES

SEQ ID NO:	AFFYMETRIX ID NO:	SEQ ID NO:	AFFYMETRIX ID NO:	SEQ ID NO:	AFFYMETRIX ID NO:
2586	12126_S_AT	2634	16073_F_AT	2681	19409_AT
2587	12137_AT	2635	16114_S_AT	2682	19503_AT
2588	12227_AT	2636	16127_S_AT	2683	19826_AT
2589	12239_AT		18744_F_AT	2684	19847_S_AT
2590	12268_AT	2637	16190_AT	2685	19930_AT
2591	12369_AT	2638	16196_AT	2686	19992_AT
2592	12476_AT	2639	16236_G_AT	2687	20096_AT
2593	12484_G_AT		19531_AT	2688	20108_AT
2594	12494_AT	2640	16310_AT	2689	20256_S_AT
2595	12644_AT	2641	16316_AT	2690	20290_S_AT
2596	12645_AT	2642	16334_S_AT	2691	20298_AT
2597	12796_S_AT	2643	16335_AT	2692	20305_AT
2598	12819_AT	2644	16340_AT	2693	20322_AT
2599	12841_AT	2645	16450_S_AT	2694	20333_AT
2600	12852_S_AT	2646	16500_AT	2695	20402_S_AT
	19455_S_AT	2647	16524_AT	2696	20424_AT
2601	13084_AT	2648	16533_AT	2697	20446_S_AT
2602	13171_AT	2649	16690_G_AT	2698	20450_AT
2603	13174_R_AT	2650	16762_AT	2699	20468_AT
2604	13596_AT	2651	16819_AT	2700	20569_S_AT
2605	13807_AT	2652	16873_I_AT	2701	20639_AT
2606	13977_AT	2653	16972_AT	2702	20678_AT
2607	13999_AT	2654	16991_AT	2703	20686_AT
2608	14052_AT	2655	17099_S_AT		
2609	14293_AT	2656	17339_AT		
2610	14335_AT	2657	17397_S_AT		
2611	14486_AT	2658	17419_AT		
2612	14506_AT	2659	17460_AT		
2613	14518_AT	2660	17554_S_AT		
2614	14540_AT	2661	17939_AT		
2615	14578_S_AT	2662	18013_R_AT		
2616	14646_S_AT		18178_S_AT		
2617	14662_F_AT	2663	18024_S_AT		
	15962_S_AT	2664	18032_I_AT		
2618	14901_AT	2665	18054_AT		
2619	14918_AT	2666	18151_AT		
2620	14986_AT	2667	18281_AT		
2621	15053_S_AT	2668	18445_AT		
2622	15179_S_AT	2669	18520_AT		
2623	15252_G_AT	2670	18583_AT		
2624	15280_AT	2671	18663_S_AT		
2625	15467_AT	2672	18753_S_AT		
2626	15607_S_AT	2673	18876_AT		
2627	15625_S_AT	2674	18938_G_AT		
2628	15703_I_AT	2675	18971_AT		
2629	15827_AT	2676	18977_AT		
2630	15863_AT	2677	18981_AT		
2631	15923_AT	2678	19099_AT		
2632	15946_S_AT	2679	19196_AT		
2633	16005_S_AT	2680	19376_AT		

TABLE 22: 2X UP IN SALT &amp; MANNITOL, ONLY

12126_s_at	17548_s_at
12227_at	17554_s_at
12369_at	17961_at
12521_at	18032_i_at
12644_at	18054_at
12645_at	18151_at
12724_f_at	18167_s_at
12795_at	18281_at
12796_s_at	18520_at
12841_at	18663_s_at
12852_s_at	18744_f_at
12958_at	18753_s_at
13014_at	18789_at
13174_r_at	18876_at
13211_s_at	18909_s_at
13596_at	18938_g_at
13640_at	18977_at
13789_at	19099_at
13977_at	19108_at
13999_at	19135_at
14069_at	19227_at
14083_at	19376_at
14089_at	19429_at
14293_at	19455_s_at
14675_s_at	19531_at
15053_s_at	19789_s_at
15058_s_at	19878_at
15252_g_at	20017_at
15280_at	20096_at
15437_at	20256_s_at
15607_s_at	20290_s_at
15625_s_at	20305_at
15827_at	20322_at
15863_at	20333_at
15880_at	20420_at
16005_s_at	20424_at
16031_at	20689_s_at
16073_f_at	
16316_at	
16334_s_at	
16335_at	
16450_s_at	
16500_at	
16524_at	
16533_at	
16597_s_at	
16819_at	
17085_s_at	
17099_s_at	
17339_at	
17419_at	
17442_i_at	
17514_s_at	



TABLE 23: 2X DOWN IN MANNITOL &amp; SALT, ONLY

12239_at	20108_at
12251_at	20298_at
12476_at	20421_at
12484_g_at	20432_at
12494_at	20446_s_at
12561_at	20639_at
12647_s_at	
12719_f_at	
12819_at	
12841_at	
13084_at	
13171_at	
13172_s_at	
13435_at	
13807_at	
14250_r_at	
14335_at	
14486_at	
14506_at	
14518_at	
14901_at	
15046_s_at	
15179_s_at	
15451_at	
15703_i_at	
15946_s_at	
16014_s_at	
16114_s_at	
16310_at	
16342_at	
16712_at	
16762_at	
16972_at	
16991_at	
17397_s_at	
17408_at	
17460_at	
17775_at	
17939_at	
18445_at	
18583_at	
18751_f_at	
18971_at	
18981_at	
19156_s_at	
19196_at	
19359_s_at	
19409_at	
19503_at	
19713_at	
19718_at	
19847_s_at	
19930_at	

TABLE 24

## COLD, OSMOTIC &amp; SALINE RESPONSIVE SEQUENCES

SEQ	AFFYMETRIX	SEQ	AFFYMETRIX	SEQ	AFFYMETRIX
ID NO:	ID NO:	ID NO:	ID NO:	ID NO:	ID NO:
1262	12004_AT	1306	12945_AT	1347	13725_AT
1263	12023_S_AT	1307	12958_AT	1348	13764_AT
1264	12078_AT	1308	12964_AT	1349	13771_AT
1265	12115_AT	1309	12968_AT	1350	13789_AT
1266	12118_AT	1310	12972_AT	1351	13916_AT
1267	12150_AT	1311	12989_S_AT	1352	13965_S_AT
1268	12251_AT	1312	13004_AT	1353	13967_AT
1269	12271_S_AT	1313	13014_AT	1354	14028_AT
1270	12276_AT	1314	13025_AT	1355	14039_AT
1271	12332_S_AT	1315	13036_AT	1356	14046_AT
	13211_S_AT	1316	13099_S_AT	1357	14049_AT
1272	12338_AT	1317	13136_AT	1358	14069_AT
1273	12400_AT	1318	13146_S_AT	1359	14077_AT
1274	12430_AT		13239_S_AT	1360	14080_AT
1275	12457_AT	1319	13153_R_AT	1361	14083_AT
1276	12521_AT	1320	13159_AT	1362	14089_AT
1277	12522_AT	1321	13176_AT	1363	14090_I_AT
1278	12530_AT	1322	13217_S_AT	1364	14097_AT
1279	12536_S_AT		17500_S_AT	1365	14116_AT
1280	12538_AT	1323	13225_S_AT	1366	14151_AT
1281	12561_AT		15997_S_AT		14219_AT
1282	12574_AT	1324	13230_S_AT	1367	14170_AT
	19019_I_AT		15972_S_AT	1368	14172_AT
1283	12595_AT	1325	13279_S_AT	1369	14192_AT
1284	12606_AT		17477_S_AT	1370	14224_AT
1285	12609_AT	1326	13280_S_AT	1371	14227_AT
1286	12622_AT		20301_S_AT	1372	14244_S_AT
1287	12630_AT	1327	13282_S_AT		14245_AT
1288	12647_S_AT		17027_S_AT		14645_S_AT
1289	12676_S_AT	1328	13426_AT		15974_G_AT
1290	12697_AT	1329	13432_AT	1373	14248_AT
1291	12698_AT	1330	13435_AT	1374	14250_R_AT
1292	12719_F_AT	1331	13447_S_AT	1375	14367_AT
1293	12724_F_AT	1332	13474_AT	1376	14381_AT
	15871_S_AT	1333	13511_AT	1377	14384_AT
	16597_S_AT	1334	13546_AT	1378	14398_S_AT
1294	12749_AT	1335	13547_S_AT	1379	14487_AT
1295	12765_AT	1336	13548_AT	1380	14582_AT
1296	12769_AT	1337	13555_AT	1381	14597_AT
1297	12781_AT	1338	13587_AT	1382	14609_AT
1298	12785_AT	1339	13595_AT	1383	14612_AT
1299	12792_S_AT	1340	13610_S_AT		19267_S_AT
1300	12795_AT	1341	13627_AT	1384	14614_AT
1301	12805_S_AT	1342	13640_AT	1385	14636_S_AT
1302	12857_AT	1343	13645_AT	1386	14644_S_AT
1303	12883_S_AT	1344	13647_AT		14658_S_AT
1304	12909_S_AT	1345	13706_S_AT		14659_S_AT
	16539_S_AT		19701_S_AT		15964_S_AT
1305	12932_S_AT	1346	13716_AT	1387	14675_S_AT
	15605_S_AT		18228_AT		

TABLE 24 (cont)

1388	14691_AT	1443	15753_AT	1496	16789_AT
	14709_AT	1444	15761_AT	1497	16818_S_AT
1389	14704_S_AT	1445	15776_AT	1498	16971_S_AT
	15846_AT	1446	15778_AT	1499	17018_S_AT
1390	14705_I_AT	1447	15839_AT	1500	17019_S_AT
1391	14733_S_AT	1448	15842_AT	1501	17029_S_AT
1392	14735_S_AT	1449	15857_S_AT	1502	17041_S_AT
1393	14779_AT	1450	15859_AT	1503	17047_S_AT
1394	14784_AT	1451	15880_AT	1504	17066_S_AT
1395	14923_AT	1452	15886_AT	1505	17085_S_AT
1396	14947_AT	1453	15906_S_AT	1506	17089_S_AT
1397	14950_AT	1454	15910_AT	1507	17179_AT
1398	14990_AT	1455	15937_AT	1508	17180_AT
1399	14998_AT	1456	15957_AT	1509	17228_AT
1400	15005_S_AT	1457	15970_S_AT	1510	17252_AT
1401	15018_AT	1458	15985_AT	1511	17317_AT
1402	15045_AT	1459	16010_S_AT	1512	17338_AT
1403	15046_S_AT		16011_S_AT	1513	17384_AT
1404	15052_AT		17078_S_AT	1514	17387_S_AT
1405	15058_S_AT	1460	16021_S_AT	1515	17400_S_AT
1406	15064_AT	1461	16031_AT	1516	17407_S_AT
1407	15088_S_AT	1462	16038_S_AT	1517	17408_AT
1408	15098_S_AT	1463	16045_S_AT	1518	17413_S_AT
1409	15103_S_AT	1464	16046_S_AT	1519	17416_AT
1410	15109_S_AT	1465	16048_AT	1520	17425_S_AT
1411	15124_S_AT	1466	16061_S_AT	1521	17440_I_AT
1412	15127_S_AT	1467	16082_S_AT	1522	17442_I_AT
1413	15145_S_AT	1468	16111_F_AT	1523	17473_AT
1414	15154_S_AT	1469	16115_S_AT	1524	17484_AT
1415	15161_S_AT	1470	16141_S_AT	1525	17514_S_AT
1416	15189_S_AT	1471	16144_S_AT	1526	17520_S_AT
1417	15214_S_AT	1472	16163_S_AT	1527	17533_S_AT
1418	15255_AT	1473	16173_S_AT	1528	17548_S_AT
1419	15356_AT	1474	16229_AT		19614_AT
1420	15357_AT	1475	16298_AT	1529	17549_S_AT
1421	15364_AT	1476	16301_S_AT	1530	17555_S_AT
1422	15392_AT	1477	16322_AT	1531	17567_AT
1423	15403_S_AT	1478	16342_AT	1532	17654_AT
1424	15437_AT	1479	16351_AT	1533	17693_AT
1425	15451_AT	1480	16412_S_AT	1534	17697_AT
1426	15476_AT	1481	16422_AT	1535	17722_AT
1427	15482_AT	1482	16427_AT	1536	17752_AT
1428	15483_S_AT	1483	16438_AT	1537	17755_AT
1429	15521_S_AT	1484	16474_S_AT	1538	17775_AT
1430	15522_I_AT	1485	16482_S_AT	1539	17832_S_AT
1431	15531_I_AT	1486	16485_S_AT	1540	17840_S_AT
1432	15573_AT		18052_S_AT	1541	17843_S_AT
1433	15581_S_AT	1487	16493_AT	1542	17855_AT
1434	15586_S_AT	1488	16534_S_AT	1543	17860_AT
1435	15594_S_AT	1489	16555_S_AT	1544	17869_AT
1436	15609_S_AT	1490	16561_S_AT	1545	17888_AT
1437	15611_S_AT		17572_S_AT	1546	17899_AT
1438	15621_F_AT	1491	16592_S_AT	1547	17929_S_AT
1439	15623_F_AT	1492	16615_S_AT	1548	17930_S_AT
1440	15669_S_AT	1493	16637_S_AT	1549	17932_S_AT
1441	15695_S_AT	1494	16692_AT	1550	17936_S_AT
1442	15702_S_AT	1495	16712_AT		18670_G_AT

TABLE 24 (cont)

1551	17957_AT	1606	19152_AT	1663	20040_AT
1552	17961_AT	1607	19156_S_AT	1664	20042_S_AT
1553	17962_AT	1608	19182_AT	1665	20060_AT
1554	17963_AT	1609	19186_S_AT		20438_AT
1555	17971_S_AT	1610	19214_AT	1666	20089_AT
1556	17975_AT	1611	19216_AT	1667	20118_AT
	18742_F_AT	1612	19227_AT	1668	20144_AT
1557	18016_R_AT	1613	19243_AT	1669	20149_AT
1558	18069_AT	1614	19288_AT	1670	20179_AT
1559	18122_AT	1615	19359_S_AT	1671	20190_AT
1560	18140_AT	1616	19368_AT	1672	20194_AT
1561	18199_AT	1617	19379_AT	1673	20219_AT
1562	18224_S_AT	1618	19380_S_AT	1674	20245_S_AT
1563	18225_AT	1619	19398_AT	1675	20263_AT
1564	18235_AT	1620	19421_AT	1676	20308_S_AT
1565	18259_S_AT	1621	19424_AT	1677	20335_S_AT
1566	18265_AT	1622	19429_AT	1678	20338_AT
1567	18270_AT1568	1623	19430_AT	1679	20345_AT
	18280_AT	1624	19450_AT	1680	20365_S_AT
1569	18289_AT	1625	19457_AT	1681	20382_S_AT
1570	18296_AT	1626	19467_AT	1682	20390_S_AT
1571	18298_AT	1627	19516_AT	1683	20395_AT
1572	18314_I_AT	1628	19545_AT	1684	20420_AT
1573	18318_AT	1629	19564_AT	1685	20421_AT
1574	18325_AT	1630	19577_AT	1686	20432_AT
1575	18351_S_AT	1631	19593_AT	1687	20437_AT
1576	18471_AT	1632	19602_AT	1688	20442_I_AT
1577	18482_S_AT	1633	19618_AT	1689	20463_S_AT
1578	18484_AT	1634	19638_AT	1690	20491_AT
1579	18560_AT	1635	19640_AT	1691	20537_AT
1580	18564_AT	1636	19646_S_AT	1692	20573_AT
1581	18590_AT	1637	19656_S_AT	1693	20636_AT
1582	18594_AT	1638	19670_AT	1694	20638_AT
1583	18595_AT	1639	19696_AT	1695	20641_AT
1584	18596_AT	1640	19713_AT	1696	20658_S_AT
1585	18629_S_AT	1641	19718_AT	1697	20689_S_AT
1586	18637_AT	1642	19722_S_AT	1698	20698_S_AT
1587	18661_AT	1643	19749_AT		
1588	18668_AT	1644	19755_AT		
1589	18699_I_AT	1645	19762_AT		
1590	18747_F_AT	1646	19789_S_AT		
	18789_AT	1647	19815_AT		
1591	18761_AT	1648	19843_AT		
1592	18833_AT	1649	19869_AT		
1593	18875_S_AT	1650	19878_AT		
1594	18894_AT	1651	19883_AT		
1595	18936_AT	1652	19894_AT		
1596	18946_AT	1653	19926_AT		
1597	18953_AT	1654	19944_AT		
1598	18955_AT	1655	19968_AT		
1599	18972_AT	1656	19977_AT		
1600	19008_S_AT	1657	19982_AT		
1601	19108_AT	1658	19987_AT		
1602	19123_AT	1659	19991_AT		
1603	19135_AT	1660	20015_AT		
1604	19137_AT	1661	20017_AT		
1605	19141_AT	1662	20031_AT		

TABLE 25: 2X UP IN COLD, SALT &amp; MANNITOL

12023_s_at	14733_s_at	17047_s_at	19640_at
12332_s_at	14923_at	17179_at	19646_s_at
12530_at	14990_at	17180_at	19656_s_at
12536_s_at	15005_s_at	17252_at	19701_s_at
12574_at	15018_at	17384_at	19843_at
12595_at	15052_at	17407_s_at	19944_at
12698_at	15088_s_at	17484_at	19982_at
12749_at	15098_s_at	17520_s_at	19987_at
12765_at	15103_s_at	17555_s_at	19991_at
12769_at	15145_s_at	17572_s_at	20042_s_at
12785_at	15154_s_at	17722_at	20060_at
12857_at	15161_s_at	17752_at	20118_at
12964_at	15214_s_at	17840_s_at	20144_at
12972_at	15356_at	17843_s_at	20149_at
12989_s_at	15521_s_at	17860_at	20179_at
13004_at	15573_at	17929_s_at	20194_at
13025_at	15586_s_at	17936_s_at	20245_s_at
13036_at	15609_s_at	17962_at	20390_s_at
13099_s_at	15611_s_at	18052_s_at	20437_at
13136_at	15621_f_at	18069_at	20463_s_at
13176_at	15669_s_at	18122_at	20491_at
13220_s_at	15695_s_at	18199_at	20641_at
13225_s_at	15753_at	18259_s_at	20658_s_at
13230_s_at	15761_at	18280_at	
13239_s_at	15857_s_at	18289_at	
13426_at	15871_s_at	18314_i_at	
13474_at	15964_s_at	18318_at	
13548_at	15970_s_at	18325_at	
13555_at	15974_g_at	18482_s_at	
13595_at	15997_s_at	18590_at	
13627_at	16011_s_at	18594_at	
13645_at	16021_s_at	18595_at	
13647_at	16038_s_at	18596_at	
13706_s_at	16046_s_at	18629_s_at	
13965_s_at	16082_s_at	18661_at	
13967_at	16111_f_at	18668_at	
14080_at	16115_s_at	18699_i_at	
14090_i_at	16127_s_at	18722_s_at	
14097_at	16141_s_at	18936_at	
14116_at	16144_s_at	18953_at	
14151_at	16163_s_at	18955_at	
14172_at	16236_g_at	18972_at	
14192_at	16301_s_at	19008_s_at	
14244_s_at	16322_at	19152_at	
14245_at	16422_at	19186_s_at	
14367_at	16474_s_at	19214_at	
14398_s_at	16482_s_at	19368_at	
14582_at	16485_s_at	19379_at	
14614_at	16555_s_at	19380_s_at	
14644_s_at	16561_s_at	19421_at	
14645_s_at	16592_s_at	19545_at	
14658_s_at	16637_s_at	19614_at	
14659_s_at	17041_s_at	19638_at	

TABLE 26: 2X DOWN IN COLD, MANNITOL &amp; SALT, ONLY

12078_at	15189_s_at	17869_at	20015_at
12115_at	15357_at	17888_at	20040_at
12118_at	15364_at	17930_s_at	20089_at
12150_at	15403_s_at	17932_s_at	20190_at
12271_s_at	15476_at	17957_at	20219_at
12276_at	15483_s_at	17963_at	20263_at
12338_at	15522_i_at	17971_s_at	20301_s_at
12400_at	15531_i_at	17975_at	20308_s_at
12430_at	15594_s_at	18016_r_at	20338_at
12538_at	15702_s_at	18140_at	20345_at
12622_at	15778_at	18224_s_at	20395_at
12630_at	15839_at	18225_at	20442_i_at
12792_s_at	15842_at	18228_at	20537_at
12805_s_at	15859_at	18235_at	20573_at
12883_s_at	15872_at	18265_at	20636_at
12909_s_at	15880_at	18270_at	20638_at
12932_s_at	15886_at	18296_at	20698_s_at
12968_at	15906_s_at	18298_at	
13159_at	15957_at	18471_at	
13217_s_at	15985_at	18564_at	
13279_s_at	16045_s_at	18637_at	
13282_s_at	16061_s_at	18742_f_at	
13432_at	16173_s_at	18761_at	
13511_at	16298_at	18833_at	
13546_at	16351_at	18875_s_at	
13547_s_at	16412_s_at	18894_at	
13587_at	16438_at	18946_at	
13610_s_at	16493_at	19123_at	
13640_at	16534_s_at	19216_at	
13725_at	16539_s_at	19243_at	
13771_at	16615_s_at	19267_s_at	
13916_at	16692_at	19288_at	
14028_at	16789_at	19398_at	
14039_at	16818_s_at	19424_at	
14046_at	16971_s_at	19430_at	
14049_at	17018_s_at	19450_at	
14077_at	17029_s_at	19457_at	
14170_at	17089_s_at	19467_at	
14227_at	17228_at	19516_at	
14248_at	17338_at	19564_at	
14381_at	17387_s_at	19577_at	
14384_at	17413_s_at	19593_at	
14487_at	17416_at	19602_at	
14597_at	17425_s_at	19618_at	
14705_i_at	17440_i_at	19670_at	
14709_at	17473_at	19696_at	
14779_at	17533_s_at	19722_s_at	
14947_at	17549_s_at	19749_at	
14950_at	17654_at	19755_at	
14998_at	17693_at	19815_at	
15045_at	17697_at	19926_at	
15109_s_at	17755_at	19968_at	
15124_s_at	17832_s_at	19977_at	

TABLE 27: 2X ROOF SPECIFIC (COLD, SALINE &amp; OSMOTIC STRESSES)

11997_at	14069_at	16052_at	18327_s_at
12004_at	14072_at	16053_i_at	18597_at
12051_at	14073_at	16105_s_at	18607_s_at
12072_at	14097_at	16161_s_at	18636_at
12150_at	14139_at	16165_s_at	18663_s_at
12151_at	14235_at	16298_at	18782_at
12166_i_at	14250_r_at	16334_s_at	18885_at
12219_at	14578_s_at	16422_at	18888_at
12315_at	14582_at	16427_at	18942_at
12332_s_at	14640_s_at	16440_s_at	18955_at
12374_i_at	14643_s_at	16442_s_at	19060_at
12482_s_at	14644_s_at	16468_at	19108_at
12515_at	14658_s_at	16488_at	19135_at
12522_at	14659_s_at	16511_at	19137_at
12538_at	14711_s_at	16529_at	19195_at
12571_s_at	14900_at	16553_f_at	19263_at
12574_at	14924_at	16568_s_at	19376_at
12609_at	14990_at	16914_s_at	19406_at
12678_i_at	15018_at	16965_s_at	19432_s_at
12698_at	15022_at	16981_s_at	19835_at
12749_at	15107_s_at	16989_at	19836_at
12760_g_at	15116_f_at	17033_s_at	19840_s_at
12765_at	15120_s_at	17066_s_at	19841_at
12768_at	15124_s_at	17085_s_at	19843_at
12769_at	15131_s_at	17252_at	19926_at
12772_at	15132_s_at	17376_at	19972_at
12777_i_at	15137_s_at	17378_at	19977_at
12958_at	15184_s_at	17388_at	19991_at
12989_s_at	15188_s_at	17415_at	20034_i_at
13015_s_at	15208_s_at	17429_s_at	20042_s_at
13134_s_at	15252_g_at	17463_at	20189_at
13146_s_at	15343_at	17485_s_at	20194_at
13172_s_at	15389_at	17490_s_at	20200_at
13178_at	15392_at	17567_at	20214_i_at
13179_at	15448_at	17585_s_at	20239_g_at
13187_i_at	15503_at	17595_s_at	20262_at
13211_s_at	15531_i_at	17840_s_at	20269_at
13239_s_at	15594_s_at	17860_at	20294_at
13273_s_at	15609_s_at	17880_s_at	20312_s_at
13297_s_at	15623_i_at	17894_at	20382_s_at
13549_at	15639_s_at	17896_at	20396_at
13604_at	15670_s_at	17899_at	20432_at
13629_s_at	15680_s_at	17911_at	20444_at
13706_s_at	15859_at	17935_at	20446_s_at
13714_at	15900_at	17961_at	20480_s_at
13751_at	15923_at	18024_s_at	20586_i_at
13895_at	15962_s_at	18122_at	20612_s_at
13933_at	15964_s_at	18222_at	20672_at
13967_at	15965_at	18224_s_at	20686_at
13985_s_at	15975_s_at	18252_at	20689_s_at
14028_at	15985_at	18255_at	
14030_at	16001_at	18269_s_at	
14058_at	16048_at	18270_at	

TABLE 28: 2X LEAF SPECIFIC (COLB, SALINE &amp; OSMOTIC STRESSES)

12169_i_at	16136_s_at
12186_at	16172_s_at
12187_at	16316_at
12211_at	16385_s_at
12212_at	16455_at
12214_g_at	16485_s_at
12270_at	16512_s_at
12645_at	16547_s_at
12754_g_at	16548_s_at
12774_at	16629_s_at
12793_at	16673_at
12796_s_at	16899_at
12910_s_at	17010_s_at
12916_s_at	17018_s_at
12953_at	17054_s_at
13090_at	17095_s_at
13124_at	17097_s_at
13335_at	17273_at
13550_at	17394_s_at
13567_at	17420_at
13568_at	17449_s_at
13596_at	17600_s_at
13614_at	17843_s_at
13678_s_at	17913_s_at
13719_at	17966_at
14014_at	18003_at
14096_at	18081_at
14118_i_at	18560_at
14369_at	18588_at
14478_at	18626_at
14513_s_at	18644_at
14540_at	18666_s_at
14596_at	18742_f_at
14733_s_at	18977_at
14986_at	18994_at
15045_at	19227_at
15097_s_at	19373_at
15098_s_at	19834_at
15145_s_at	19867_at
15153_s_at	19998_at
15154_s_at	20062_at
15182_s_at	20199_at
15203_s_at	20256_s_at
15372_at	20284_at
15521_s_at	20437_at
15581_s_at	20442_i_at
15621_f_at	20450_at
15642_s_at	20468_at
15776_at	20547_at
15910_at	20635_s_at
16017_at	
16046_s_at	
16115_s_at	



TABLE 29: 2X TRANSCRIPTION (COLD, SALINE &amp; OSMOTIC STRESSES)

12068_at	15665_s_at	19836_at
12166_i_at	15679_s_at	19860_at
12374_i_at	15720_at	19866_at
12392_at	15871_s_at	19898_at
12431_at	16072_s_at	20262_at
12450_s_at	16073_f_at	20335_s_at
12503_at	16105_s_at	20362_at
12536_s_at	16111_f_at	20424_at
12540_s_at	16127_s_at	20437_at
12541_at	16534_s_at	20456_at
12587_at	16582_s_at	20515_s_at
12594_at	16589_s_at	20635_s_at
12595_at	16747_at	
12704_f_at	17019_s_at	
12705_f_at	17129_s_at	
12709_f_at	17160_at	
12712_f_at	17520_s_at	
12719_f_at	17538_s_at	
12724_f_at	17555_s_at	
12725_r_at	17609_at	
12726_f_at	17896_at	
12734_f_at	17971_s_at	
12736_f_at	17975_at	
12737_f_at	17978_s_at	
12812_at	18121_s_at	
12949_at	18167_s_at	
12951_at	18197_at	
12966_s_at	18222_at	
13023_at	18318_at	
13034_s_at	18576_s_at	
13087_at	18629_s_at	
13270_at	18738_f_at	
13273_s_at	18742_f_at	
13432_at	18744_f_at	
13555_at	18745_f_at	
13688_s_at	18747_f_at	
13714_at	18750_f_at	
13965_s_at	18751_f_at	
13987_s_at	18789_at	
14003_at	18834_at	
14144_at	18942_at	
14178_at	19083_at	
14223_at	19202_at	
14235_at	19209_s_at	
14303_s_at	19232_s_at	
14393_at	19315_at	
14553_at	19489_s_at	
14781_at	19611_s_at	
15046_s_at	19646_s_at	
15053_s_at	19707_s_at	
15214_s_at	19722_s_at	
15510_r_at	19744_at	
15638_s_at	19755_at	

TABLE 30: 2X PHOSPHATES (COLD, SALINE &amp; OSMOTIC STRESSES)

12470\_at  
12556\_at  
13128\_at  
13135\_s\_at  
13180\_s\_at  
13192\_s\_at  
13193\_s\_at  
13587\_at  
13995\_at  
14335\_at  
15073\_at  
15171\_s\_at  
15240\_at  
15586\_s\_at  
15641\_s\_at  
15651\_f\_at  
15990\_at  
16232\_s\_at  
16576\_f\_at  
16753\_at  
17423\_s\_at  
17525\_s\_at  
17537\_s\_at  
17929\_s\_at  
17954\_s\_at  
18012\_s\_at  
18308\_l\_at  
18616\_at  
18847\_at  
18936\_at  
18980\_at  
19243\_at  
19263\_at  
19638\_at  
19883\_at  
19932\_at  
20333\_at  
20393\_at  
20570\_at

TABLE 31: ZX KINASES (COLD, SALINE &amp; OSMOTIC STRESSES)

12253_g_at	16059_s_at	20144_at
12270_at	16087_s_at	20219_at
12271_s_at	16088_f_at	20223_at
12276_at	16125_s_at	20232_s_at
12278_at	16137_s_at	20235_i_at
12284_at	16140_s_at	20282_s_at
12300_at	16143_s_at	20298_at
12307_at	16144_s_at	20396_at
12353_at	16160_f_at	20439_at
12357_s_at	16171_s_at	20462_at
12390_at	16357_at	
12394_at	16412_s_at	
12395_s_at	16568_s_at	
12408_at	16570_s_at	
12452_at	16571_s_at	
12477_at	16584_s_at	
12490_at	16651_s_at	
12497_at	16652_s_at	
12532_at	16672_at	
12697_at	16818_s_at	
12901_s_at	16840_at	
12902_at	17068_s_at	
12958_at	17122_s_at	
12959_at	17252_at	
13068_at	17323_at	
13246_at	17475_at	
13324_at	17752_at	
13332_at	17921_s_at	
13362_s_at	17933_at	
13370_at	17935_at	
13550_at	18013_r_at	
14030_at	18046_s_at	
14048_at	18122_at	
14194_at	18176_at	
14196_at	18316_at	
14217_at	18455_at	
14459_at	18459_at	
14603_at	18482_s_at	
14637_s_at	18543_at	
14686_s_at	18706_s_at	
15005_s_at	18782_at	
15175_s_at	18924_at	
15270_at	19117_s_at	
15475_s_at	19437_s_at	
15497_s_at	19442_at	
15577_s_at	19458_at	
15616_s_at	19464_at	
15633_s_at	19469_at	
15634_s_at	19562_at	
15668_s_at	19655_at	
15680_s_at	19749_at	
15798_at	19854_at	
16034_at	19904_at	



AAC49123.1	Oryza sativa	037133	AAC23542.1	Ipomoea trifida	020948
AAC80225.1	Oryza longistaminata	072723	CRA71314.1	Brassica oleracea	Y12531
AAC34426.1	Oryza sativa	AF172282	CRA67145.1	Brassica oleracea	X98520
CAC20842.1	Pinus sylvestris	AJ250467	BAA23676.1	Brassica rapa	AB000970
BAA83373.1	Oryza sativa	AP000391	BAA92836.1	Brassica oleracea	AB032473
BAA84787.1	Oryza sativa	AP000559	CRA89179.1	Brassica napus subsp. nap	AJ245479
AAB82756.1	Oryza sativa	U72724	AAA33008.1	Brassica napus	M97667
AAC91323.1	Glycine max	AF244889	AAC28237.1	Brassica oleracea	AB032474
CAC36318.1	Melus x domestica	AF053127	CBA41879.1	Brassica oleracea	Y18260
RAA91324.1	Glycine max	AF244890	CAA79355.1	Brassica oleracea	Y18921
RAA91322.1	Glycine max	AF244888	CAA21132.1	Brassica oleracea	D88193
RAA95905.1	Glycine max	AF197946	BAA06288.1	Brassica rapa	D30049
RAA95906.1	Glycine max	AF197947	AAA62235.1	Brassica napus	U00443
RAA36558.1	Ipomoea nil	U77888	CRA74662.1	Brassica oleracea	Y14286
CAC61510.1	Oryza sativa	X89226	CAA44878.1	Brassica oleracea	Y18259
RAA82753.1	Oryza longistaminata	U72726	AAA33000.1	Brassica oleracea	M76647
BAA86636.1	Nicotiana tabacum	AB029327	BAA07577.2	Brassica rapa	D38564
AAC52992.1	Ipomoea nil	U77888	RAA07576.1	Brassica rapa	D38563
AAB61708.1	Daucus carota	U93048	BAA21001.1	Brassica rapa	AB054061
SEQ ID NO. 50			AAB93834.1	Brassica rapa	U82481
BAA22559.1	Glycine max	AB007503	AA021872.1	Phaseolus vulgaris	AF078082
BAA24289.1	Panax ginseng	AB010148	AA052097.1	Nicotiana tabacum	AF088885
BAA13084.1	Glycyrrhiza glabra	D86410	AAAF34428.1	Oryza sativa	AF172282
BAA13083.1	Glycyrrhiza glabra	D86409	SEQ ID NO. 52		
AB0057	Nicotiana tabacum	U60057	DAUC51708.1	Daucus carota	U93048
AF124842	Capsicum annuum	AF124842	BAA83373.1	Oryza sativa	AP000391
AB022599	Solanum tuberosum	AB022599	BAA84787.1	Oryza sativa	AP000559
AB087048.1	Nicotiana benthamiana	U46000	AA052992.1	Ipomoea nil	U77888
RAA14896.1	Artemisia annua	AF302464	RAA91322.1	Glycine max	AF244888
BAA22558.1	Zea mays	AB007502	RAA91323.1	Glycine max	AF244889
BAA22557.1	Oryza sativa	AB007501	AA021965.1	Brassica napus	AY028699
AB002945.1	Nicotiana tabacum	U59683	RAA93906.1	Glycine max	AF197947
AF205791	Bettyococcus braunii	AF205791	CRA61510.1	Oryza sativa	X89226
AAAF12690.1	Citrus sinensis	AF205900	RAA36558.1	Ipomoea nil	U77888
AB181557	Artemisia annua	AF181557	AA052990.1	Glycine max	AF073405
AB025790	Bettyococcus braunii	AF025790	AA053090.1	Oryza sativa	AC073406
AAAF63255.1			RAA34426.1	Oryza sativa	AF172282
SEQ ID NO. 51			AA021872.1	Oryza sativa	I27821
CRA73133.1	Brassica oleracea	Y12530	AA033915.1	Phaseolus vulgaris	AF078082
CRA74661.1	Brassica oleracea	Y14285	AA016628.1	Brassica napus	AY007545

BAA94509.1	AB041503	Populus nigra	AAF23176.1	AF216497	Gossypium hirsutum
BAA94510.1	AB041504	Populus nigra	BAF76420.1	AB024992	Cicer arietinum
BAG52994.1	U77888	Ipomoea nil	CMA94437.1	Z70524	Spirodela polyrrhiza
BAK11674.1	AF339747	Lophopyrum elongatum	SEQ ID NO. 56		
BAF43496.1	AF131222	Lophopyrum elongatum	AAF66615.1	AF142596	Nicotiana tabacum
BAA92954.1	AF001551	Oryza sativa	AAF91324.1	AF244890	Glycine max
BAF78764.1	AB023482	Oryza sativa	CMA51834.1	00069	Oryza sativa
SEQ ID NO. 54			CMA51834.1	XY028699	Brassica napus
CMA57913.1	X2577	Brassica napus	BAF78764.1	AB023482	Oryza sativa
AAF03675.1	AF149311	Rauvolfia serpentina	CHAF97692.1	Z73235	Catharanthus roseus
AAH38784.1	U72154	Brassica nigra	ANG03090.1	AC073405	Brassica napus
BAF34650.1	AF221526	Prunus serotina	BAF94509.1	AB041503	Populus nigra
BAA11831.1	D83177	Costus sciosus	BAF43496.1	AF131222	Lophopyrum elongatum
AAA31166.1	U39228	Prunus avium	AAK11674.1	AF339747	Lophopyrum elongatum
BAE22162.1	S35175	Manihot esculenta	CMA71334.1	Y12531	Brassica oleracea
AAF04007.1	AF163097	Dalbergia cochinchinensis	BAF94510.1	AB041504	Populus nigra
AAO09850.1	U44087	Zea mays	MAA33915.1	L27821	Oryza sativa
AAE64442.1	AF112888	Catharanthus roseus	BAF09771.1	U67422	Zea mays
BAF28800.1	X94986	Manihot esculenta	AAFC61805.1	U28007	Lycopersicon esculentum
BAF78708.1	AB003089	Polypodium tinctorium	AAF91337.1	AF249318	Glycine max
AAO02839.1	AF082991	Avena sativa	AAAB93834.1	U82481	Zea mays
AAO06614.1	AF293849	Secale cereale	AAAG25966.1	AF302082	Nicotiana tabacum
AAO49177.1	U33817	Sorghum bicolor	AAF91336.1	AF249317	Glycine max
BAF25897.1	X78433	Cucurbita pepo	AAF76131.1	AF220603	Lycopersicon esculentum
CMA55196.1	U33816	Avena sativa	BAF47421.1	U59316	Lycopersicon esculentum
BAF10503.1	U33816	Zea mays	CMA74562.1	Y14286	Brassica oleracea
BAF65946.1	U25157	Zea mays	CMA74561.1	Y14285	Brassica oleracea
AAO3266.1	U44773	Zea mays	AAO21872.1	AF078082	Phaseolus vulgaris
CAA2293.1	X74217	Zea mays	BAO22594.1	AF001551	Oryza sativa
AAO69619.1	AF072736	Pinus contorta	BAO06538.1	D51737	Nicotiana tabacum
CAA40058.1	X56734	Trifolium repens	AAH1586.1	AF318490	Lycopersicon hirsutum
BAF71381.1	U95298	Manihot esculenta	AAH1569.1	AF318493	Lycopersicon hirsutum
CAA40057.1	X56733	Trifolium repens	CMA73133.1	Y12530	Brassica oleracea
AAO67339.1	L41869	Hordeum vulgare	SEQ ID NO. 57		
AAK07429.1	AF321287	Musa acuminata	AAO00510.1	AF285172	Phaseolus vulgaris
CAA79989.2	Z21977	Brassica napus	AAF59905.1	AF197946	Glycine max
AAAB4906.1	U28047	Oryza sativa	AAF59906.1	AF197947	Glycine max
CAC08209.1	AJ005950	Cicer arietinum	AAAB1708.1	U93048	Daucus carota
SEQ ID NO. 55					



CAB94692.1	AJ242742	Ipomoea batatas	CAB56742.1	AJ249800	Cicer arietinum
CAB62226.1	X90693	Medicago sativa	RAAG0208.1	AF175278	Pisum sativum
BAA14143.1	D90115	Artemisia rusticana	AAAC49188.2	U29333	Pisum sativum
AB022554.1	L37790	Stylosanthes humilis	AAA32913.1	M32885	Persea americana
CAB60361.1	X97350	Populus balsamifera subsp. trichocarpa	RAAC56282.1	AF155332	Petunia x hybrida
BAA11852.1	D83224	Populus nigra	RAAC39454.1	AF014802	Eschscholzia californica
BAA11853.1	D83225	Populus nigra	BAAC02894.1	AB006790	Petunia x hybrida
EAAC07241.1	D38051	Populus kitakamiensis	BAA12159.1	D63968	Glycine max
CAAC05277.1	AF049881	Populus ussuriensis	CAC65580.1	X96784	Nicotiana tabacum
CAB66035.1	X97349	Populus balsamifera subsp. trichocarpa	BAAB94587.1	AF022458	Glycine max
RAAD37427.1	AF149277	Phaseolus vulgaris	BAA22423.1	AB001380	Glycyrrhiza echinata
BAAC06183.1	M37636	Arachis hypogaea	BAAC4466.1	AB027733	Glycyrrhiza echinata
BAAC34108.1	J02979	Nicotiana tabacum	BAAC4432.1	AF218296	Pisum sativum
CAB62227.1	X90694	Medicago sativa	BAA13076.1	D66351	Glycine max
BAAC01392.1	D11396	Nicotiana tabacum	BAAC84072.1	AB028152	Torenia hybrida
BAAC2967.1	AF001551	Oryza sativa	RAAC38930.1	AF155485	Glycine max
CAAC0796.1	X57564	Artemisia rusticana	CAAC61635.1	X95342	Nicotiana tabacum
CAAC98519.1	AF007211	Glycine max	CAB56743.1	AJ249801	Cicer arietinum
CRA71493.1	Y10467	Spinacia oleracea	BAAC0324.1	AB037245	Asparagus officinalis
CAB62225.1	X90692	Medicago sativa	SEQ ID NO. 62		
CAB60597.1	X71593	Lycopersicon esculentum	CRA12395.1	AJ225087	Vigna unguiculata
CAB67121.1	Y19023	Lycopersicon esculentum	CRA36556.1	X52321	Hordeum vulgare
RAAC49819.1	AF014468	Oryza sativa	RAAC25637.1	AF300799	Hordeum vulgare
BAAC08499.1	D49551	Oryza sativa	RAAC67245.1	AF061203	Hordeum vulgare
BAAC01877.1	D11102	Populus kitakamiensis	BAAC25638.1	AF300800	Hordeum vulgare
CAB59487.1	X85230	Triticum aestivum	BAAC39391.1	AB048949	Hordeum vulgare
BAAC97734.1	AF014502	Glycine max	RAAC30294.1	AF353207	Castanea crenata
BAAC77368.1	AB024438	Scutellaria baicalensis	BAAC04815.1	D21349	Hordeum vulgare
			BAAC08741.1	D49999	Hordeum vulgare
			RAAC67246.1	AF061204	Hordeum vulgare subsp. spontaneum
SEQ ID NO. 61			CRA16789.1	AJ301645	Hordeum vulgare
CAB43505.1	AJ239051	Cicer arietinum	RAAC02459.1	AF049098	Trifolium repens
BAAC3634.1	AB025016	Lotus japonicus	BAAC02386.1	D12882	Ipomoea batatas
BAAC74465.1	AB022732	Glycyrrhiza echinata	BAAC04188.1	AF036217	Medicago sativa
BAAC24422.1	AB001379	Glycyrrhiza echinata	BAAC0462.1	D50866	Glycine max
CRA10067.1	AJ0012581	Cicer arietinum	BAAC0453.1	AB004271	Glycine max
CRA14590.1	AJ238459	Cicer arietinum	RAAC4862.1	AE284857	Calyptostegia sepium
CAAC04117.1	AJ0000478	Helianthus tuberosus	CRA67128.1	X98504	Triticum aestivum
CAAC04116.1	AJ0000477	Helianthus tuberosus	AAA33898.1	L10345	Oryza sativa
BAAC94590.1	AF022461	Glycine max			



L10345	AAA33899.1	Oryza sativa	Oryza sativa subsp. japonica
D01022	AAA00828.1	Ipomoea batatas	Brassica napus
AF068119	AA015902.1	Zea mays	Zea mays
325871	AA081091.1	Triticum aestivum	Brassica oleracea
Y16242	AA076131.1	Triticum aestivum	Daucus carota
Z11772	AA078717.1	Secale cereale	Ipomoea trifida
AF001539	AA078717.1	Oryza sativa	Phaseolus vulgaris
AF139501	AA038148.1	Prunus armeniaca	Brassica oleracea
AF139502	AA064177.1	Hordeum vulgare	Brassica rapa
AF139503	AA064177.1	Hordeum vulgare	Brassica rapa
D63574	AA009793.1	Secale cereale	Brassica oleracea
X56785	AA040105.1	Secale cereale	Lycopersicon esculentum
			Lycopersicon esculentum
			Oryza sativa
			Oryza sativa
			Brassica oleracea
			Oryza sativa
			Brassica napus subsp. napus
			Brassica rapa
			Oryza sativa
			Oryza sativa
			Glycine max
			Brassica oleracea
			Brassica oleracea
			Brassica oleracea
			Brassica oleracea
			Brassica rapa
			Brassica rapa
			Brassica rapa
			Brassica rapa
			Brassica rapa
			Oryza sativa
			Nicotiana tabacum
			Populus nigra
			Populus nigra
			Brassica napus
			Brassica napus
			Catharanthus roseus
			Lycopersicon esculentum
			Oryza sativa
			Triticum aestivum
			Triticum aestivum

[illegible]70

SEQ ID NO.	70
CAA73067.1	Y12464
CAA73068.1	Y12465

70

SEQ ID NO.	70
CAA73067.1	Y12464
CAA73068.1	Y12465

BAA83688.1	AB011967	Oryza sativa	AAA33917.1	I36320	Oryza sativa
BAA96628.1	AF002482	Oryza sativa	AAAC1464.1	I19435	Oryza sativa
AAB62693.1	AF004947	Oryza sativa	BAA00799.1	D00999	Oryza sativa
AAF72219.1	AF141378	Zea mays	AA333659.1	N63003	Pisum sativum
BAA83689.1	AB011968	Oryza sativa	AA048484.1	AF170297	Manihot esculenta
BAA34675.1	AF011670	Triticum aestivum	CAAE60191.1	AJ250667	Ananas comosus
AAF66639.1	AF143743	Lycopersicon esculentum	CAAE61654.1	X73139	Ipomoea batatas
AA023582.1	AF128443	Glycine max	CAAE59444.1	X55974	Nicotiana glauca
CAAT71142.1	V10036	Cucumis sativus	CAAB0394.1	U80069	Nicotiana glauca
RA050549.1	D26602	Nicotiana tabacum	AA068837.1	AF328859	Nicotiana glauca
CA057898.1	X82548	Hordeum vulgare	CAAG0826.1	X87372	Avicennia marina
CA099329.1	RF062479	Hordeum vulgare	AA849913.1	U34727	Lycopersicon esculentum
CA065244.1	X95997	Solanum tuberosum	CA057993.1	X17564	Zea mays
CA070713.1	AJ007990	Hordeum vulgare	CA056633.1	AJ002604	Pinus sylvestris
CA06556.1	X65606	Hordeum vulgare	RA001608.1	AF016993	Populus tremuloides
AA052224.1	U83797	Solanum tuberosum	AAK26433.1	AF354746	Solanum tuberosum
CA04654.1	X65604	Hordeum vulgare	AA092612.1	AF037359	Paulownia kawakamii
AA05457.1	U55768	Oryza sativa	AA066812.1	AF009734	Capsicum annuum
AA000239.1	U73938	Nicotiana tabacum	CAAE01604.1	AF016892	Populus tremuloides
CA060503.1	AJ005373	Craterostigma plantagineum	CA010160.1	AV012739	Cicer arietinum
AA068962.1	I38855	Glycine max	CA010132.1	AV012691	Cicer arietinum
CA070713.1	AJ007990	Oryza sativa	AA034194.1	N37150	Lycopersicon esculentum
CA06556.1	X65606	Oryza sativa	CA032199.1	X14040	Lycopersicon esculentum
AA052224.1	U83797	Oryza sativa	BA019674.1	D49485	Solidago canadensis
CA04654.1	X65604	Oryza sativa	AA05576.1	AF009735	Raphanus sativus
AA05457.1	U55768	Nicotiana tabacum	CA037929.1	X53872	Carica papaya
AA000239.1	U73938	Mesembryanthemum crystallinum	CA085861.1	AF054150	Spinacia oleracea
CA060503.1	AJ005373	Triticum aestivum	CA037866.1	X95728	Zantedeschia aethiopica
AA068962.1	I38855	Vicia faba	CA065043.1	X95728	Brassica rapa
CA070713.1	AJ007990	Chlamydomonas eugametos	BA021760.1	AB026724	Oryza sativa
CA06556.1	X65606	Triticum aestivum	BA01745.1	D85239	Oryza sativa
AA052224.1	U83797	Chlamydomonas reinhardtii	CA065041.1	X95725	Brassica juncea
CA04654.1	X65604	Mesembryanthemum crystallinum	BA010088.1	D10244	Spinacia oleracea
AA05457.1	U55768	Pinus sylvestris	BA024919.1	D5004970	Narchontia paleacea
AA000239.1	U73938	Oryza sativa	AA033728.1	M20792	Petunia x hybrida
CA060503.1	AJ005373	Oryza sativa			
AA068962.1	I38855	Zea mays			
CA070713.1	AJ007990	Pinax ginseng			
CA06556.1	X65606	Pinus sylvestris			
AA052224.1	U83797	Zea mays			
CA04654.1	X65604				
AA05457.1	U55768				
AA000239.1	U73938				
CA060503.1	AJ005373				
AA068962.1	I38855				
CA070713.1	AJ007990				
CA06556.1	X65606				
AA052224.1	U83797				
CA04654.1	X65604				
AA05457.1	U55768				
AA000239.1	U73938				
CA060503.1	AJ005373				
AA068962.1	I38855				
CA070713.1	AJ007990				
CA06556.1	X65606				
AA052224.1	U83797				
CA04654.1	X65604				
AA05457.1	U55768				
AA000239.1	U73938				
CA060503.1	AJ005373				
AA068962.1	I38855				
CA070713.1	AJ007990				
CA06556.1	X65606				
AA052224.1	U83797				
CA04654.1	X65604				
AA05457.1	U55768				
AA000239.1	U73938				
CA060503.1	AJ005373				
AA068962.1	I38855				
CA070713.1	AJ007990				
CA06556.1	X65606				
AA052224.1	U83797				
CA04654.1	X65604				
AA05457.1	U55768				
AA000239.1	U73938				
CA060503.1	AJ005373				
AA068962.1	I38855				
CA070713.1	AJ007990				
CA06556.1	X65606				
AA052224.1	U83797				
CA04654.1	X65604				
AA05457.1	U55768				
AA000239.1	U73938				
CA060503.1	AJ005373				
AA068962.1	I38855				
CA070713.1	AJ007990				
CA06556.1	X65606				
AA052224.1	U83797				
CA04654.1	X65604				
AA05457.1	U55768				
AA000239.1	U73938				
CA060503.1	AJ005373				
AA068962.1	I38855				
CA070713.1	AJ007990				
CA06556.1	X65606				
AA052224.1	U83797				
CA04654.1	X65604				
AA05457.1	U55768				
AA000239.1	U73938				
CA060503.1	AJ005373				
AA068962.1	I38855				
CA070713.1	AJ007990				
CA06556.1	X65606				
AA052224.1	U83797				
CA04654.1	X65604				
AA05457.1	U55768				
AA000239.1	U73938				
CA060503.1	AJ005373				
AA068962.1	I38855				
CA070713.1	AJ007990				
CA06556.1	X65606				
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CA06556.1	X65606				
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CA06556.1	X65606				
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CA04654.1	X65604				
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BA083689.1	AB011968	Oryza sativa	CMA95859.1	271276	Mangifera indica
BA083688.1	AB011967	Oryza sativa	CMA55865.1	X79278	Medicago sativa
AF141378	AF141378	Zea mays	BAA02111.1	D12543	Pisum sativum
BA034675.1	AB011670	Triticum aestivum	CMA89049.1	249190	Beta vulgaris
BA062693.1	AF004947	Oryza sativa	CMA98179.1	273951	Lotus japonicus
BA005649.1	D26602	Nicotiana tabacum	BAA02437.1	D13152	Oryza sativa
AF128443	Y10036	Glycine max	CMA98177.1	273949	Lotus japonicus
AD23582.1	AF128443	Glycine max	BAA06701.1	D31905	Zea mays
CMA65244.1	X95997	Solanum tuberosum	BAA06710.1	D31905	Glycine max
CMA57898.1	X82548	Hordeum vulgare	BAA06702.1	D31906	Zea mays
CAC98329.1	AF062479	Oryza sativa	CMA67153.1	X98540	Fagus sylvatica
CMA07813.1	AF007990	Hordeum vulgare	BAA02110.1	D12542	Pisum sativum
CMA46554.1	X65604	Hordeum vulgare	CMA41966.1	X59276	Oryza sativa
BA005457.1	U35768	Oryza sativa	BAA02109.1	D12541	Pisum sativum
BA05456.1	X65606	Hordeum vulgare	BAA84640.1	AB007911	Pisum sativum
BA058348.1	U29095	Triticum aestivum	CMA98185.1	273957	Lotus japonicus
BA065203.1	AU005373	Cratogeomys plantagineum	CMA98186.1	273958	Lotus japonicus
BA065325.1	X94726	Triticum aestivum	CMA98187.1	273954	Lotus japonicus
CMA81144.1	Z26846	Mesembryanthemum crystallinum	BAA48018.1	273955	Gossypium hirsutum
BA000239.1	U73938	Nicotiana tabacum	CMA98183.1	273955	Lotus japonicus
BA013608.1	D88399	Oryza sativa	BAA48019.1	AF165096	Gossypium hirsutum
BA068962.1	I38855	Glycine max	CMA54506.1	X77301	Glycine max
BA060195.1	AC084763	Oryza sativa	CMA98178.1	273950	Lotus japonicus
BA019573.1	AB002109	Oryza sativa	BAA02108.1	D12540	Pisum sativum
CMA89202.1	Z49233	Chlamydomonas eugametos	BAA34253.1	I08130	Volvox carterii
BA002040.1	U73939	Nicotiana tabacum	CMA98165.1	273937	Lotus japonicus
AF027340.1	AF186020	Vicia faba	AAA90955.1	U32185	Glycine max
CAC98509.1	AF100162	Chlamydomonas reinhardtii	AAA63902.1	U22433	Zea mays
SEQ ID NO. 73			SEQ ID NO. 75		
CMA90282.1	Z49990	Solanum tuberosum	CMA52069.1	X73849	Brassica napus
SEQ ID NO. 74			CMA52070.1	X73850	Brassica napus
BA015703.1	AF327517	Oryza sativa	CMA61111.1	X87842	Brassica rapa
BA002504.1	D13758	Oryza sativa	BAA39002.1	U17098	Cartamus tinctorius
BA002113.1	D12545	Pisum sativum	BA051523.1	M95669	Cardium mangostana
BA002114.1	D12546	Pisum sativum	BA053064.1	U92876	Capsicum chinense
CMA98180.1	U73952	Lotus japonicus	AAA33019.1	M95668	Cartamus tinctorius
BA002112.1	D12544	Pisum sativum	BA051524.1	U92877	Cardium mangostana
CMA98181.1	273953	Lotus japonicus	BA043859.1	AF213478	Iris germanica
CMA98184.1	273956	Lotus japonicus	BAA28187.1	AF110462	Elaeis guineensis

[illegible]

SEQ ID NO. 76	SEQ ID NO. 78
CAAA47870.1	CAAA87080.1
CAAA47870.6	CAAA87079.1
CAAA47868.1	CAAA87075.1
CAAA47869.1	
CAAA49300.1	
CAAA474563.1	
CAAA49301.1	
CAAA83711.1	
CAAA58117.1	
CAAA47579.1	
CAAA8077.1	
CAAA39034.1	
CAAA83710.1	
CAAA87080.1	
CAAA87079.1	
CAAA87075.1	









AAF32411.1	AF230278	Triphysaria versicolor	AA337749.1	U30460	Cucumis sativus
AAF32409.1	AF230276	Triphysaria versicolor	AA369077.1	AF049350	Nicotiana tabacum
AAF35901.1	AF230332	Zinnia elegans	CAA69105.1	Y07782	Oryza sativa
AAF35902.1	AF230333	Zinnia elegans	AA369078.1	AF049351	Nicotiana tabacum
AAF47901.1	AF085330	Pinus taeda	AA369079.1	AF291659	Striga asiatica
RAF40635.1	U54891	Pinus taeda		AF049352	Nicotiana tabacum
AA32921.1	AF184233	Lycopersicon esculentum	SEQ ID NO. 92		
CAC19184.1	AF291817	Cicer arietinum	RAA17732.1	L19074	Catharanthus roseus
RAF40637.1	U54893	Pinus taeda	AA394586.1	AF022457	Glycine max
RAF40634.1	U64930	Pinus taeda	CA389260.1	Z49263	Pisum sativum
AA33529.1	U53167	Pinus taeda	CA383509.1	AF239051	Cicer arietinum
RAF21101.1	AF155863	Pinus taeda	AA394587.1	AF022458	Glycine max
RAF19676.1	AF029083	Fragaria x ananassa	AA357231.1	U34744	Phalaenopsis sp. SW9108
AA340636.1	AF049354	Pinus taeda	BA384071.1	AB028151	Antirrhinum majus
AA369081.1	AF038815	Nicotiana tabacum	BA384072.1	AB001380	Glycyrrhiza echinata
AA333330.1	AF239068	Lycopersicon esculentum	AA383941.1	Z33875	Mentha x piperita
CAB43197.1	AF096776	Cucumis sativus	AA369209.1	AF175278	Pisum sativum
AA337746.1	U30382	Lycopersicon esculentum	SEQ ID NO. 93		
AA313633.1	AF059489	Lycopersicon esculentum	AA333228.2	AF305070	Chlamydomonas reinhardtii
AA31662.1	U85246	Oryza sativa	BA396166.1	AF002092	Oryza sativa
AA34956.1	AF167360	Rumex palustris	SEQ ID NO. 96		
CAC19183.1	AF291816	Cicer arietinum	CA359450.1	X85138	Lycopersicon esculentum
AA32180.1	AF247162	Oryza sativa	AA336653.1	U32644	Nicotiana tabacum
AA339512.1	AF043284	Gossypium hirsutum	AA328303.1	AF346431	Nicotiana tabacum
AA38074.1	U30477	Oryza sativa	AA336652.1	U32643	Nicotiana tabacum
BA32732.1	AB049406	Eustoma grandiflorum	AA328304.1	AF346432	Nicotiana tabacum
AA317570.1	AF202119	Marsilea quadrifolia	CA356231.1	Y18871	Dortheanthus bellidifolius
CB46492.1	AF243340	Festuca pratensis	BA384484.1	AB031274	Scutellaria baicalensis
CA360433.1	AF276007	Oryza sativa	BA384484.1	U82367	Solanum tuberosum
RAF98200.1	AF000937	Lycopersicon esculentum	AA362270.1	AF006081	Solanum berthaultii
AA313632.1	AF059488	Triphysaria versicolor	AA361647.1	AF190634	Nicotiana tabacum
AA32410.1	AF230277	Lycopersicon esculentum	CA354612.1	X77462	Renhot esculenta
AA33088.1	U52123	Oryza sativa	CA354612.1	AB047094	Vitis vinifera
AA362182.1	AF247164	Striga asiatica	BA341019.1	AB047092	Vitis vinifera
AA362187.1	AF247163	Oryza sativa	BA341019.1	AB047096	Phaseolus lunatus
CA362181.1	AF247163	Lycopersicon esculentum	BA341023.1	AB047096	Vitis vinifera
AA362181.1	AF247163	Regnellidium diphyllum	BA341023.1	AB047098	Vitis vinifera
AA37571.1	AF202120	Brassica napus	AA37571.1	AF287143	Brassica napus
CA340385.1	AF000885		AA37571.1	AF287143	

RA021086.1	AF127218	Forsythia x intermedia	CRA65533.1	X96758	Zea mays
RA081683.1	AF000372	Vitis vinifera	SEQ ID NO. 101		
RA041017.1	AB047090	Vitis labrusca x Vitis vinifera	RA08215.1	AP000570	Oryza sativa
RA041020.1	AB047093	Vitis vinifera	RA080586.1	U19490	Chilamydomonas reinhardtii
RA041026.1	AB047099	Vitis vinifera	RA080216.1	U19484	Chilamydomonas reinhardtii
RA041024.1	AB047097	Vitis vinifera			
RA041022.1	AB047095	Vitis vinifera	SEQ ID NO. 102		
RA081682.1	AF000371	Vitis vinifera	RA087452.1	U65890	Brassica napus
RA041018.1	AB047091	Vitis labrusca x Vitis vinifera	RA063591.1	AF009413	Oryza sativa
RA017077.1	AF199453	Sorghum bicolor	RA089307.1	M87646	Spinacia oleracea
RA045611.1	X77461	Manihot esculenta	RA060293.1	AF233745	Lycopersicon esculentum
RA090019.1	AB027455	Petunia x hybrida			
RA093039.1	AB033758	Citrus unshiu	SEQ ID NO. 103		
RA054609.1	X77459	Manihot esculenta	RA025928.1	AF260919	Petunia x hybrida
RA090008.1	AB027454	Petunia x hybrida	RA025927.1	AF260918	Petunia x hybrida
RA019659.1	AB002818	Perilla frutescens	RA028507.1	U18349	Phaseolus vulgaris
RA054614.1	X77464	Manihot esculenta	RA080686.1	U18348	Phaseolus vulgaris
SEQ ID NO. 99			RA092300.1	AF251719	Zea mays
RA020862.1	AB029512	Solanum tuberosum	RA015818.1	AF061107	Zea mays
RA025636.1	AF044173	Solanum tuberosum	RA049219.1	U39860	Oryza sativa
RA03542.1	DI4722	Spinacia oleracea	RA049216.1	U39865	Oryza officinalis
RA07329.1	X66860	Spinacia oleracea	RA039455.1	AF020545	Petunia x hybrida
RA070863.1	AB029513	Solanum tuberosum	RA049212.1	U39863	Oryza australiensis
RA073909.1	AF073697	Oryza sativa	RA049213.1	U39864	Oryza eichingeri
RA050965.1	D28777	Citrus sativa	RA056411.1	AF185269	Tulipa gesneriana
RA020861.1	AB029511	Solanum tuberosum	SEQ ID NO. 104		
RA059798.1	X85603	Zea mays	RA033041.1	M33148	Citrus sativa
RA033051.1	AB040503	Allium tuberosum	RA041547.1	U31900	Cucumis sativus
RA023907.1	AF073655	Oryza sativa	RA099734.1	AF020270	Medicago sativa
RA025635.1	AF044172	Solanum tuberosum	RA012870.1	D85763	Oryza sativa
RA021819.1	AF029249	Nicotiana glauca	RA043995.1	AF024713	Brassica napus
RA094469.1	AF042113	Oryza sativa	RA043994.1	AF024712	Brassica napus
RA07177.1	D37963	Spinacia oleracea	RA043268.1	X92512	Brassica napus
RA060619.1	AF006024	Cicer arietinum	RA053538.1	X78800	Eucalyptus gunnii
RA060619.1	AF073696	Oryza sativa	RA056659.1	AF180335	Glycine max
RA023908.1	AF073698	Oryza sativa	RA069802.1	AF195869	Vitis vinifera
RA023910.1	AF073699	Pyrus pyrifolia	RA099755.1	AF020271	Medicago sativa
RA078529.1	AF195239	Pyrus pyrifolia	RA099757.1	AF020273	Medicago sativa
SEQ ID NO. 100			RA028106.1	AF079850	Pisum sativum
RA039510.1	U53345	Camptotheca acuminata			

RAAC24855.1	AF068686	Glycine max	AAA81889.1	U02494	Solanum tuberosum
RAA61621.1	X89451	Brassica napus	AAA81891.1	U02496	Solanum tuberosum
CAA84571.1	U40212	Chlamydomonas reinhardtii	AAA81892.1	U02497	Solanum tuberosum
AD006974	AD006974	Plant Nicotiana tabacum	AAA81890.1	U02495	Solanum tuberosum
RAD10324.1	U42979	Chlamydomonas reinhardtii	BAAS5201.1	AF000570	Oryza sativa
RAA39506.1	U40465	Chlamydomonas reinhardtii	BAAS4626.1	AF000492	Oryza sativa
CAC61775.1	AJ275317	Cicer arietinum	AAA81893.1	U02498	Solanum tuberosum
RAA19244.1	AF068687	Glycine max	BAAS4627.1	AF000492	Oryza sativa
RAC19136.1	AF068688	Glycine max	BAAS5202.1	AF000570	Oryza sativa
RAC19137.1	AF068689	Glycine max	AA02006.1	U57350	Nicotiana tabacum
AAE27629.1	AF217211	Medicago truncatula	SEQ ID NO. 111		
AAE27629.1	AF220497	Medicago truncatula	AA017501.2	U43034	Zea mays
AAE35861.1	U80676	Botryococcus braunii	SEQ ID NO. 112		
AAE38970.1	U80676	Hordeum vulgare	CAA71881.1	Y10990	Nicotiana tabacum
AAE62597.1	U55684	Oryza sativa	SEQ ID NO. 113		
BA020271.1	D13817	Oryza sativa	CAA70700.1	Y09506	Nicotiana tabacum
AAK26431.1	AF353203	Oryza sativa	CAA77134.1	Y18349	Oryza sativa
AAE13573.1	AC037425	Oryza sativa	CAA77133.1	Y18349	Oryza sativa
AAE62596.1	U55685	Hordeum vulgare	SEQ ID NO. 114		
AAE64290.1	AF007581	Zea mays	AAE20949.1	AF207691	Daucus carota
CAA71611.1	Y10602	Lycopersicon esculentum	AA004951.1	U36752	Chlamydomonas reinhardtii
CAA70100.1	Y08887	Lycopersicon esculentum	AAE60560.2	S63824	Pinus mugo
AAE99756.1	AF020272	Medicago sativa	AAE79251	AF279251	Vigna radiata
CAC12826.1	AJ299256	Solanum tuberosum	BAAS1089.1	D50085	Cucumis sativus
AAE1564.1	AF067859	Solanum tuberosum	BA031693.1	AB007321	Marchantia paleacea
BA090518.1	AF001129	Oryza sativa	BAAS6734.1	AF027356	Pinus strobus
CAA7101.1	Y08888	Lycopersicon esculentum	BAAS4475.1	AF243520	Lycopersicon esculentum
CAA71612.1	Y10603	Lycopersicon esculentum	AA020020.1	AF433522	Lycopersicon esculentum
CAA77808.1	Y11754	Zea mays	AAE82474.1	AF433524	Chloroplast Vigna radiata
AAE87008.1	U22533	Flaveria trinervia	SEQ ID NO. 116		
SEQ ID NO. 105			CAA73171.1	Y12599	Apium graveolens
RAAG33228.2	AF305070	Chlamydomonas reinhardtii	AAK29454.1	AF352251	Lens culinaris
RAA96166.1	AF002092	Oryza sativa	CAA40369.1	X57077	Zea mays
SEQ ID NO. 106			BAAS5203.1	D87064	Trifolium aestivum
CAA85464.1	AJ277210	Avena sativa	AAK29455.1	AF352252	Lens culinaris
SEQ ID NO. 107					
BA09852.1	D63781	Glycine max			
CAA55293.1	X78547	Glycine max			
CAA55294.1	X78548	Glycine max			

AAK29450.1	AF352247	<i>Pisum sativum</i>	SEQ ID NO. 120		
RAK29456.1	AF352253	<i>Lens culinaris</i>	RAF22256.1	AF161711	<i>Pimpinella brachycarpa</i>
RAA88671.1	AB029614	<i>Nicotiana tabacum</i>	RAK67600.1	X99210	<i>Lycopersicon esculentum</i>
RAK29453.1	AF352250	<i>Lathyrus sativus</i>	CAK64614.1	X95296	<i>Lycopersicon esculentum</i>
AAK29452.1	AF352249	<i>Lathyrus sativus</i>	RAK78386.1	Z13396	<i>Petunia x hybrida</i>
RAK29449.1	AF352246	<i>Pisum sativum</i>	CAK43399.1	AJ006292	<i>Antirrhinum majus</i>
RAK25204.1	D97065	<i>Triticum aestivum</i>	RAK78387.1	Z13997	<i>Petunia x hybrida</i>
RAK29451.1	AF352248	<i>Pisum sativum</i>	RAA88221.1	AB028649	<i>Nicotiana tabacum</i>
CAK12232.1	AJ024933	<i>Lycopersicon esculentum</i>	RAA89224.1	AB028652	<i>Nicotiana tabacum</i>
RAK66857.1	AJ024933	<i>Fritillaria agrestis</i>	ABK41101.1	U72762	<i>Nicotiana tabacum</i>
RAK41651.1	L23456	<i>Nicotiana tabacum</i>	RAA88223.1	AB028651	<i>Nicotiana tabacum</i>
RAK50578.1	U03391	<i>Lycopersicon esculentum</i>	CAK72185.1	Y11350	<i>Oryza sativa</i>
RAK7331.1	AB012694	<i>Lycopersicon esculentum</i>	ACG37425	ACG37425	<i>Oryza sativa</i>
RAK41007.1	AF107024	<i>Lilium longiflorum</i>	RAK19616.1	AF3526283	<i>Gossypium hirsutum</i>
AAK29450.1	AF107024	<i>Triticum aestivum</i>	CAK78386.1	Z13396	<i>Petunia x hybrida</i>
AAK29450.1	AF222804	<i>Euphorbia esula</i>	CAK72218.1	Y11415	<i>Oryza sativa</i>
CAK29123.1	X05636	<i>Pisum sativum</i>	CAK78386.1	X99973	<i>Hordeum vulgare</i>
AAK34246.1	L07947	<i>Volvox carterii</i>	AAK3574.1	ACG37425	<i>Zea mays</i>
CAK7233.1	AJ006767	<i>Cicer arretinum</i>	RAK19616.1	AF3526283	<i>Gossypium hirsutum</i>
AAK50303.1	L34578	<i>Pisum sativum</i>	CAK78386.1	Z13396	<i>Petunia x hybrida</i>
AAK41008.1	AF107026	<i>Triticum aestivum</i>	CAK72218.1	Y11415	<i>Oryza sativa</i>
AAK47423.1	L07946	<i>Volvox carterii</i>	CAK72185.1	Y11350	<i>Oryza sativa</i>
CAK42529.2	X59872	<i>Triticum aestivum</i>	CAK72185.1	Y11350	<i>Oryza sativa</i>
AAK41005.1	AF107022	<i>Triticum aestivum</i>	CAK72185.1	Y11350	<i>Oryza sativa</i>
SEQ ID NO. 119					
CAK7568.1	AJ007580	<i>Ribes nigrum</i>	RAA81733.2	AB029162	<i>Glycine max</i>
CAK67107.1	X98474	<i>Solanum tuberosum</i>	CAK72217.1	Y11414	<i>Oryza sativa</i>
RAA92520.1	AF001383	<i>Oryza sativa</i>	RAA88222.1	AB028650	<i>Nicotiana tabacum</i>
CAK72107.1	Y11220	<i>Solanum tuberosum</i>	RAA41101.1	U72762	<i>Nicotiana tabacum</i>
RAK71744.1	U75346	<i>Chlamydomonas reinhardtii</i>	RAA88223.1	AB028651	<i>Nicotiana tabacum</i>
RAK71743.1	U75345	<i>Chlamydomonas reinhardtii</i>	CAK72185.1	Y11350	<i>Oryza sativa</i>
RAK31583.1	AB016064	<i>Zea mays</i>	CAK72185.1	Y11350	<i>Oryza sativa</i>
RAK31582.1	AB016063	<i>Glycine max</i>	CAK72185.1	Y11350	<i>Oryza sativa</i>
RAK31584.1	AB016065	<i>Oryza sativa</i>	CAK72185.1	Y11350	<i>Oryza sativa</i>
CAK67141.1	AJ075306	<i>Cicer arretinum</i>	CAK72185.1	Y11350	<i>Oryza sativa</i>
CAK69726.1	Y08499	<i>Betula pendula</i>	CAK72185.1	Y11350	<i>Oryza sativa</i>
CAK12820.1	AJ299250	<i>Nicotiana tabacum</i>	CAK72185.1	Y11350	<i>Oryza sativa</i>
RAA08105.1	D45075	<i>Penicium millicium</i>	CAK72185.1	Y11350	<i>Oryza sativa</i>
RAA08104.1	D45074	<i>Penicium millicium</i>	CAK72185.1	Y11350	<i>Oryza sativa</i>
RAA08103.1	D45073	<i>Penicium millicium</i>	CAK72185.1	Y11350	<i>Oryza sativa</i>
CAK27140.1	AJ132535	<i>Picea abies</i>	CAK72185.1	Y11350	<i>Oryza sativa</i>

CAB43399.1	AM006292	Antirrhinum majus	AAK19618.1	AF336285	Gossypium hirsutum
AAK19615.1	AF336282	Gossypium hirsutum	AAK19611.1	AF336278	Gossypium hirsutum
AAK19618.1	AF336285	Gossypium hirsutum	AAK19611.1	AF336286	Gossypium hirsutum
CA72186.1	Y11351	Oryza sativa	AAK19615.1	AF336282	Gossypium hirsutum
CA64614.1	X95296	Lycopersicon esculentum	CA64614.1	X95296	Lycopersicon esculentum
CA50224.1	X70876	Hordeum vulgare	BA23338.1	D88618	Oryza sativa
BA23333.1	D88618	Oryza sativa	BA23337.1	D88617	Oryza sativa
AAK19611.1	AF336286	Gossypium hirsutum	CA67575.1	X99134	Lycopersicon esculentum
AAK19611.1	AF336278	Gossypium hirsutum	CA65525.1	X96749	Oryza sativa
BA23337.1	D88617	Oryza sativa	CA50221.1	X70876	Hordeum vulgare
CA65525.1	X96749	Oryza sativa	AAK19611.1	AF336284	Gossypium hirsutum
AAK19617.1	AF336284	Gossypium hirsutum	AAK19611.1	AF336284	Gossypium hirsutum
CA67575.1	X99134	Lycopersicon esculentum	CA50222.1	X70877	Hordeum vulgare
CA50224.1	X70879	Hordeum vulgare	CA50224.1	X70879	Hordeum vulgare
SEQ ID NO. 122			SEQ ID NO. 125		
BA88222.1	AB028650	Nicotiana tabacum	BA92155.1	AB007818	Citrus unshiu
BA88221.1	AB028649	Nicotiana tabacum	AA802879.1	M37152	Nicotiana tabacum
BA88224.1	AB028652	Nicotiana tabacum	BA816425.1	AB041513	Nicotiana tabacum
CA78387.1	Z13997	Petunia x hybrida			
CA66952.1	X98308	Lycopersicon esculentum	SEQ ID NO. 126		
AA841101.1	U72762	Nicotiana tabacum	CA68993.1	Y07721	Petunia x hybrida
BA88223.1	AB028651	Nicotiana tabacum			
BA81733.2	AB029162	Glycine max	SEQ ID NO. 134		
BA81731.1	AB029160	Glycine max	AA826960.1	U63726	Glycine max
BA81730.1	AB029159	Glycine max			
BA81736.1	AB029165	Glycine max	SEQ ID NO. 135		
CA72217.1	Y11414	Oryza sativa	CA77403.1	Z00044	Plastid Nicotiana tabacum
BA81732.1	AB029161	Glycine max			
CA72185.1	Y11350	Oryza sativa	SEQ ID NO. 136		
AA813574.1	AC037425	Oryza sativa	AA836543.1	U77935	Phaseolus vulgaris
CA72218.1	Y11415	Oryza sativa			
CA78386.1	Z13996	Petunia x hybrida	SEQ ID NO. 137		
CA83399.1	AM006292	Antirrhinum majus	BA77928.1	AF084202	Medicago sativa
AAK19616.1	AF336283	Gossypium hirsutum	BA77928.1	D38011	Oryza sativa
AA836774.1	AF210616	Zea mays			
AA833500.1	X73028	Hordeum vulgare	SEQ ID NO. 138		
CA868235.1	X39973	Hordeum vulgare	BA779358.1	AB020023	Nicotiana tabacum
CA72187.1	Y11352	Oryza sativa	BA816439.1	AB041520	Nicotiana tabacum
CA72186.1	Y11351	Oryza sativa	AA849528.1	U56834	Petroselinum crispum
CA67600.1	X39210	Lycopersicon esculentum	AA827591.1	AF121354	Petroselinum crispum



RAC119392..1	AF069314	Mesembryanthemum crystallinum	ADA49230..1	AF159385	Hordeum bulbosum
RAC19081..1	AJ001903	Triticum turgidum subsp. durum	ADA49232..1	AF159387	Lolium perenne
RAC20986..1	AJ035294	Oryza sativa	ADA49233..1	AF159388	Phalaris coarulescens
RAC49357..1	U59830	Pisum sativum	ADA49234..1	AF159389	Phalaris coarulescens
RAC45098..1	X63537	Pisum sativum	EAA13524..1	D87984	Fagopyrum esculentum
RAC41415..1	X58527	Nicotiana tabacum	ADA14145..1	X58527	Nicotiana glauca
RAC4864..1	D21836	Oryza sativa	ADA49231..1	AF159386	Secale cereale
RAC41522..1	U92541	Oryza sativa	CAA56850..1	X80887	Chlamydomonas reinhardtii
RAC50546..1	D26547	Oryza sativa	CAA55399..1	X78822	Chlamydomonas reinhardtii
RAC40671..1	AF018174	Brassica napus	ABA53695..1	U59380	Brassica napus
RAC32111..1	AF051206	Picea mariana	ADA56954..1	AF186240	Secale cereale
RAC494534..1	Z70677	Ricinus communis	CAA35827..1	X51463	Spinacia oleracea
RAC25681..1	AB010434	Brassica rapa	CAA35826..1	X51462	Spinacia oleracea
RAC45681..1	D87984	Fagopyrum esculentum	CAA45098..1	X63537	Pisum sativum
RAC35777..1	AF273844	Brassica oleracea var.	CAA33082..1	X14959	Spinacia oleracea
RAC53694..1	U59379	Brassica napus	RAC19392..1	U59830	Pisum sativum
RAC77847..1	Z11803	Nicotiana tabacum	ACA56851..1	AF069314	Mesembryanthemum crystallinum
RAC56850..1	X80887	Chlamydomonas reinhardtii	CAA55398..1	X78821	Chlamydomonas reinhardtii
RAC55399..1	X78822	Chlamydomonas reinhardtii	CAA53900..1	X76269	Pisum sativum
RAC5827..1	X51463	Spinacia oleracea	ACA9358..1	X63531	Pisum sativum
RAC35826..1	X51462	Spinacia oleracea	ACA04671..1	AF018174	Brassica napus
RAC433596..1	AF133127	Hevea brasiliensis	CAA06736..1	AJ005841	Oryza sativa
RAC53695..1	U59380	Brassica napus	RAB52409..1	U76831	Brassica napus
			ADA5358..1	AF160870	Brassica napus
SEQ ID NO. 147			SEQ ID NO. 148		
RAC3596..1	AF133127	Hevea brasiliensis	ACA5358..1	U59831	Pisum sativum
CAV77847..1	Z11803	Nicotiana tabacum	CAA53900..1	X76269	Pisum sativum
RAC20886..1	AJ035294	Oryza sativa	CAA52409..1	U76831	Brassica napus
RAC8067..1	AF286593	Triticum aestivum	ADA5358..1	AF160870	Brassica napus
CAO5081..1	AF001903	Triticum turgidum subsp. durum			
RAC494534..1	Z70677	Ricinus communis	SEQ ID NO. 149		
RAC32111..1	AF051206	Picea mariana	CAA58032..1	AJ271093	Lycopersicon esculentum
RAC56861..1	AB010434	Brassica rapa	AF67141..1	AJ230371	Lycopersicon esculentum
RAC57777..1	AF273844	Brassica oleracea var.	ACA03533..1	U00428	Linum usitatissimum
RAC53694..1	U59379	Brassica napus	CAA86383..1	AJ250864	Hordeum vulgare
RAC77847..1	Z11803	Nicotiana tabacum	CAA86384..1	AJ251304	Hordeum vulgare
RAC56850..1	X80887	Chlamydomonas reinhardtii	AAFA6041..1	AF229811	Cucumis sativus
RAC55399..1	X78822	Chlamydomonas reinhardtii	CAA54848..1	AJ249246	Medicago sativa
RAC5827..1	X51463	Spinacia oleracea	CAA54847..1	AJ249245	Medicago sativa
RAC35826..1	X51462	Spinacia oleracea			
RAC433596..1	AF133127	Hevea brasiliensis			
RAC53695..1	U59380	Brassica napus			
SEQ ID NO. 148			SEQ ID NO. 149		
RAC3596..1	AF133127	Hevea brasiliensis	CAA58032..1	AJ271093	Lycopersicon esculentum
CAV77847..1	Z11803	Nicotiana tabacum	AF67141..1	AJ230371	Lycopersicon esculentum
RAC20886..1	AJ035294	Oryza sativa	ACA03533..1	U00428	Linum usitatissimum
RAC8067..1	AF286593	Triticum aestivum	CAA86383..1	AJ250864	Hordeum vulgare
CAO5081..1	AF001903	Triticum turgidum subsp. durum	CAA86384..1	AJ251304	Hordeum vulgare
RAC494534..1	Z70677	Ricinus communis	AAFA6041..1	AF229811	Cucumis sativus
RAC32111..1	AF051206	Picea mariana	CAA54848..1	AJ249246	Medicago sativa
RAC56861..1	AB010434	Brassica rapa	CAA54847..1	AJ249245	Medicago sativa
RAC57777..1	AF273844	Brassica oleracea var.			
RAC53694..1	U59379	Brassica napus			
RAC77847..1	Z11803	Nicotiana tabacum			
RAC56850..1	X80887	Chlamydomonas reinhardtii			
RAC55399..1	X78822	Chlamydomonas reinhardtii			
RAC5827..1	X51463	Spinacia oleracea			
RAC35826..1	X51462	Spinacia oleracea			
RAC433596..1	AF133127	Hevea brasiliensis			
RAC53695..1	U59380	Brassica napus			

[illegible]



[illegible]



[illegible]

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AA040291.1	U42208	Oryza sativa	AA566608.1	AF012889	Zea mays
AAK14790.1	AY027510	Catharanthus roseus	RA088537.1	AF035944	Fragaria x ananassa
AAK17168.1	Y10809	Petroselinum crispum	RA035152.1	AB008187	Pisum sativum
AAK37418.1	I34551	Oryza sativa	RA022219.1	AF141378	Zea mays
CA066478.1	X97904	Vicia faba	CA081443.1	226846	Mesembryanthemum crystalli
CA049556.1	U04295	Oryza sativa	CA025423.1	AF072908	Nicotiana tabacum
CA088493.1	Z48603	Nicotiana tabacum	CA046110.1	AC073166	Oryza sativa
RA025822.1	AF350505	Phaseolus vulgaris	RA096325.1	Y94726	Trifolium aestivum
CA070216.1	Y09013	Trifolium aestivum	RA033005.1	AY029067	Rosa hybrid cultivar
CA071795.1	Y10834	Hordeum vulgare	RA058348.1	U23095	Trifolium aestivum
SEQ ID NO. 169			SEQ ID NO. 171		
CA06925.1	RA006228	Nicotiana tabacum	CA00653.1	AJ232745	Petroselinum crispum
SEQ ID NO. 170			CA006537.1	AJ232744	Petroselinum crispum
BA03689.1	AB011968	Oryza sativa	CA074023.1	Y13676	Antirrhinum majus
CA06334.1	AJ005077	Lycopersicon esculentum	CA074022.1	Y13675	Antirrhinum majus
AA05112.1	AF158091	Mesembryanthemum crystallinum	BA022204.1	D63951	Nicotiana tabacum
AA09202.1	Z49233	Chlamydomonas eugametos	AA053394.1	AF176641	Lycopersicon esculentum
AA021062.1	AF216527	Dunaliella tertiolecta	AA023822.1	AF350505	Phaseolus vulgaris
AA019402.1	AF203480	Lycopersicon esculentum	AA001953.1	AY026054	Phaseolus acutifolius
CA073068.1	Y12465	Sorghum bicolor	CA071687.1	Y10685	Glycine max
AA019403.1	AF203481	Lycopersicon esculentum	CA037418.1	I34551	Oryza sativa
AA031141.1	AF305911	Oryza sativa	BA036492.1	AB021736	Oryza sativa
AA031142.1	AF305912	Hordeum vulgare	BA011431.1	D78609	Oryza sativa
AA06970.1	AF162662	Kalanchoe fedtschenkoi	CA041453.1	X58577	Petroselinum crispum
AA06969.1	AF162661	Kalanchoe fedtschenkoi	CA071768.1	Y10809	Petroselinum crispum
AA019401.1	AF203479	Glycine max	AA049556.1	U04295	Oryza sativa
BA050814.1	AF001168	Oryza sativa	BA007289.1	D38111	Trifolium aestivum
CA073067.1	Y12464	Sorghum bicolor	CA071795.1	Y10834	Hordeum vulgare
BA034675.1	AB011670	Trifolium aestivum	CA070216.1	Y09013	Trifolium aestivum
BA03688.1	AB011967	Oryza sativa	CA040101.1	X56781	Trifolium aestivum
CA039396.1	X56399	Oryza sativa	CA011499.1	AF223624	Spinacia oleracea
CA041172.1	X58194	Daucus carota	CA049474.1	U41817	Phaseolus vulgaris
BA065396.1	AF000615	Oryza sativa	BA040291.1	U42208	Phaseolus vulgaris
CA05270.1	AF048691	Oryza sativa	BA042304.1	D12920	Trifolium aestivum
AA017800.1	AF090835	Mesembryanthemum crystallinum	SEQ ID NO. 180		
CA050038.1	X70707	Medicago sativa	AA026116.1	AF106954	Brassica napus
CA057156.1	X81393	Oryza sativa	CA051533.1	AF027693	Ajuga reptans
BA06628.1	AF002482	Oryza sativa	CA051534.1	AJ027694	Ajuga reptans
			AA055726.1	AF178569	Vitis riparia

SEQ ID NO. 181	Pennisetum glaucum	AAK15502.1	AF325270	Pennisetum ciliare
AAK80173.1	U11446	AAK57914.1	X82578	Parthenium argentatum
AAK80172.1	U11445	BAA77025.1	AB026251	Lithospermum erythrorhizon
AAK33504.1	Z62227			
AAK80171.1	U11444			Oryza sativa
AAK25927.1	AF260918	SEQ ID NO. 188		
AAK25926.1	AF260919	BAA04611.1	D17765	
AAK0544.1	X37276			
AAK80175.1	U11450	SEQ ID NO. 189		
AAK49216.1	U39865	CAC12883.1	AJ295006	Nicotiana tabacum
AAK03841.1	U57899	CAM55090.1	X78284	Medicago sativa
		BAA92964.1	AF001551	Oryza sativa
		AAK82139.1	AF022736	Oryza sativa
		CAM64625.1	X95313	Chlamydomonas reinhardtii
		AAK78516.1	AF195217	Pyrus pyrifolia
		AAK43806.1	AF166114	Chloroplast Mesostigma viride
		BAA58003.1	AB001684	Chlorella vulgaris
		AAC64970.1	AF095708	Oryza sativa
		AAK54793.1	AF137379	Chloroplast Nephrolepis
				olivacea
SEQ ID NO. 185	Cicer arietinum	SEQ ID NO. 190		
CAC10134.1	AJ012693	CAB61752.1	AJ275318	Cicer arietinum
CAB65280.1	AJ248323	CAC14890.1	AJ295156	Phragmites australis
CAC32448.1	U76296	AAB68605.1	U82433	Prunus armeniaca
AAK66243.1	AF243181	AAK86532.1	U31544	Pisum sativum
AAK10251.1	AF031195			
AAK66242.1	AF243180	SEQ ID NO. 191		
CAB80963.1	Z25471	CAC12157.1	D12632	Oryza sativa
AAK64163.1	AF093537	BAB19390.1	AF002542	Oryza sativa
		AAK64190.1	AF245665	Mesembryanthemum crystallinum
SEQ ID NO. 187	Pisum sativum	SEQ ID NO. 192		
AAK32207.1	AF134733	CAC12358.1	AJ225027	Cicer arietinum
AAK70919.1	AF019376	AAK13966.1	X94296	Hordeum vulgare
AAK71420.1	U74631	AAK13966.1	AF298927	Prunus avium
AAK71419.1	U74630			
CAB95999.1	Z71395	SEQ ID NO. 193		
CAB05163.1	AJ002057	BAB94964.1	AB042113	Glycine max
AAK32249.1	Z27349	BAB94966.1	AB042115	Oryza sativa
AAK01470.1	AF190454	AAK67099.1	AZ216853	Zea mays
CAB66728.1	Z46772	BAB94965.1	AB042114	Glycine max
AAK61939.1	X99813			
AAK01147.1	AF283816			
AAK32948.1	Z27348			
BAB88900.1	AF021259			
AAK17490.1	AF052040			
CAB54975.1	X78057			
CAB54526.1	AJ000765			
AAK85118.1	AB018243			









AAA65777.1	U97522	<i>Vitis vinifera</i>	AAA17409.1	U02607	<i>Solanum tuberosum</i>
RAA22966.1	D45182	<i>Chenopodium amaranticolor</i>	AA18332.1	U02605	<i>Solanum tuberosum</i>
RAA22966.1	D45184	<i>Chenopodium amaranticolor</i>	CMA45821.1	X64518	<i>Nicotiana tabacum</i>
RAA22965.1	D45181	<i>Chenopodium amaranticolor</i>			
CA43708.1	X61488	<i>Brassica napus</i>	SEQ ID NO. 229		
RAA22967.1	D45183	<i>Chenopodium amaranticolor</i>	AAA35812.1	S80554	<i>Arabidopsis</i>
CA35354.1	X75945	<i>Beta vulgaris</i>	AAF23570.1	AF112095	<i>Arabidopsis halleri</i>
CA49435.1	U52845	<i>Daucus carota</i>	AAF23568.1	AF112093	<i>Arabidopsis griffithiana</i>
RAA08465.1	U52846	<i>Daucus carota</i>	RAA64355.1	AF144533	<i>Arabidopsis korehinskyi</i>
RAA08470.1	U52846	<i>Daucus carota</i>	AAF23581.1	AF112106	<i>Capsella rubella</i>
RAA08469.1	U52847	<i>Daucus carota</i>	AAF23569.1	AF112094	<i>Helianthus perplexa</i> var.
AAA33445.1	M84165	<i>Zea mays</i>	Perplexa		
AAA33444.1	M84164	<i>Zea mays</i>	AA643349.1	AF144531	<i>Arabidopsis himalaica</i>
AAA32916.1	L25826	<i>Beta vulgaris</i>	AAF23575.1	AF112100	<i>Arabidopsis lyrata</i> subsp.
AA028733.1	AF112966	<i>Triticum aestivum</i>	lyrata		
BAE21377.1	AB054811	<i>Oryza sativa</i>	AAF23567.1	AF112092	<i>Arabidopsis griffithiana</i>
BAE21374.1	AB054687	<i>Oryza sativa</i>	AAF23578.1	AF112103	<i>Arabidopsis lyrata</i> subsp.
BA119793.1	AB003194	<i>Oryza sativa</i>	petraea		
AAE85364.1	L42467	<i>Picea glauca</i>	AAF23576.1	AF112101	<i>Arabis parishi</i>
AA01665.1	U21848	<i>Brassica napus</i>	AAF23574.1	AF112099	<i>Arabis lyrallii</i>
AA035981.1	AF090336	<i>Citrus sinensis</i>	AAF23566.1	AF112091	<i>Arabis glabra</i>
AA028730.1	AF112963	<i>Triticum aestivum</i>	AAF23565.1	AF112090	<i>Arabis fendleri</i>
AA04454.1	AF000966	<i>Poa pratensis</i>	AAF23563.1	AF112088	<i>Arabis drummondii</i>
CAC17793.1	AJ301671	<i>Nicotiana sylvestris</i>	AAF23564.1	AF112089	<i>Arabis drummondii</i>
AA04453.1	AF000964	<i>Poa pratensis</i>	AAF23579.1	AF112104	<i>Arabidopsis lyrata</i> subsp.
CA34812.1	X16938	<i>Nicotiana tabacum</i>	petraea		
CA34812.1	X16938	<i>Nicotiana tabacum</i>	AAF23573.1	AF112098	<i>Arabis lignifera</i>
CA34812.1	X64519	<i>Nicotiana tabacum</i>	AAF23560.1	AF112085	<i>Cardamine amara</i>
CA34812.1	X64519	<i>Nicotiana tabacum</i>	RAA643348.1	AF144530	<i>Cardamine amphibia</i>
CA34812.1	X51599	<i>Nicotiana tabacum</i>	RAA643356.1	AF144538	<i>Cardamine penzancei</i>
RAA23374.1	S44869	<i>Nicotiana tabacum</i>	RAA643359.1	AF144541	<i>Sisymbrium irio</i>
RAA34070.1	X15173	<i>Nicotiana tabacum</i>	RAA643352.1	AF144534	<i>Lepidium campestre</i>
CA30142.1	X07130	<i>Solanum tuberosum</i>	CMA34495.1	X14314	<i>Sinapis alba</i>
CA33317.1	X15494	<i>Solanum tuberosum</i>	AAF23573.1	AF144539	<i>Cardamine rivularis</i>
AA053609.1	AF280437	<i>Secale cereale</i>	AAF23583.1	AF112108	<i>Barbarea vulgaris</i>
CA01591.1	Z78202	<i>Persea americana</i>	CAAC31914.1	AF076336	<i>Brassica napus</i>
CA053626.1	X76041	<i>Triticum aestivum</i>	CAAC31912.1	AF076334	<i>Brassica napus</i>
CA078845.1	X15140	<i>Lycopersicon esculentum</i>	AAF23577.1	AF112102	<i>Arabis pauciflora</i>
AA016010.1	AF061805	<i>Elaeagnus umbellata</i>	AA043350.1	AF144532	<i>Cochlearia denica</i>
AA032640.1	M94106	<i>Allium sativum</i>	CAAC34460.1	X16437	<i>Sinapis alba</i>
AAA32641.1	M94105	<i>Allium sativum</i>	CMA35600.1	X17577	<i>Matthiola incana</i>
AAA56787.1	L34211	<i>Hordeum vulgare</i>			





CMA43210.1	X60820	Oryza sativa	CMA63901.1	X94191	Pennisetum glaucum
AAA33909.1	M80938	Oryza sativa	AAA33672.1	X33899	Pisum sativum
CRA37864.1	X53870	Chenopodium rubrum	CMA41547.1	X58711	Medicago sativa
CRA63571.1	X92984	Pseudotsuga menziesii	CMA46641.1	X65725	Zea mays
CMA63901.1	X94191	Pennisetum glaucum	AAA39856.1	U81385	Oryza sativa
AAA33671.1	M33900	Pisum sativum	CRA78394.1	U83671	Oryza sativa
AAA6641.1	X65725	Zea mays	CRA78392.1	U83669	Oryza sativa
CRA31785.1	X13431	Triticum aestivum	CMA39603.1	X56138	Lycopersicon esculentum
CMA63902.1	X94192	Pennisetum glaucum	AAA33910.1	M80938	Oryza sativa
AAA39856.1	U01365	Oryza sativa	AAA33909.1	M80938	Oryza sativa
			CMA43210.1	X60820	Oryza sativa
			AAA34294.1	AF123256	Lycopersicon esculentum
			AAA30454.1	LL4444	Triticum aestivum
			AF123257		Lycopersicon esculentum
SEQ ID NO. 237			SEQ ID NO. 238		
AA14577.1	U72396	Lycopersicon esculentum	AAA30456.1	AF123259	Lycopersicon esculentum
AAA33670.1	M33901	Pisum sativum	RAF31705.1	AF221856	Euphorbia esula
CRA92653.1	Z29554	Helianthus annuus	RAF32131.1	AF051230	Picea mariana
AAA41409.1	AF159562	Prunus dulcis	CRA78738.1	Z15018	Oryza sativa
CRA65020.1	X95716	Petroselinum crispum			
CMA36312.1	AF090115	Lycopersicon esculentum			
AAA01561.1	L47717	Picea glauca			
AAA39336.1	M99430	Ipomoea nil			
AAA01562.1	L47740	Picea glauca			
AAA67206.1	X98617	Medicago sativa			
CMA41218.1	X58279	Triticum aestivum	SEQ ID NO. 239		
CMA6726.1	X99346	Picea abies	CAB57579.1	AJ011914	Lycopersicon esculentum
AAA38012.1	X54075	Zea mays			
CRA38013.1	X54075	Zea mays	SEQ ID NO. 240		
AAA26481.1	S59777	Zea mays	AAA33945.1	J03919	Glycine max
AAA39335.1	M99429	Ipomoea nil	CMA48297.1	X68215	Pisum sativum
AAA09184.1	AF089845	Funaria hygrometrica	AAA33944.1	J03920	Glycine max
AAA04841.1	D21817	Lilium longiflorum	CMA48298.1	X68216	Pisum sativum
AAA09185.1	AF089846	Funaria hygrometrica	CMA48300.1	X68218	Pisum sativum
AAA04842.1	D21816	Lilium longiflorum	CMA48299.1	X68217	Pisum sativum
CMA63570.1	X32963	Pseudotsuga menziesii	CMA50278.1	AF169830	Glycine max
AAA33571.1	X32984	Pseudotsuga menziesii	CMA61982.1	AJ249996	Lycopersicon esculentum
AAA39360.1	U63631	Fragaria x ananassa			
AAA09178.1	AF087640	Funaria hygrometrica	SEQ ID NO. 241		
AAA09182.1	AF089843	Funaria hygrometrica	AAA33944.1	J03920	Glycine max
AAA04940.1	D21816	Lilium longiflorum	CMA48300.1	X68218	Pisum sativum
AAA04045.1	AF123255	Lycopersicon esculentum	CMA48299.1	J03919	Glycine max
AAA63311.1	U46545	Helianthus annuus	AAA33945.1	J03919	Pisum sativum
CRA31785.1	X13431	Triticum aestivum	CMA48298.1	X68215	Pisum sativum

AAD50278.1	AFI69830	Glycine max
SEQ ID NO. 242		
RAD32142.1	AFI23504	Nicotiana tabacum
CRA48297.1	X68215	Pisum sativum
CRA48298.1	X68216	Pisum sativum
RAD32143.1	AFI23505	Nicotiana tabacum
RAD32146.1	AFI23508	Nicotiana tabacum
AAA33945.1	J03919	Glycine max
BAA58621.1	J03919	Cucumis sativus
AAA33944.1	J03920	Glycine max
CRA48300.1	X68218	Pisum sativum
CRA48299.1	X68217	Pisum sativum
PAC13253.1	AF022013	Lycopersicon esculentum
RAD50278.1	AFI69830	Glycine max
BAA55640.1	AP002070	Oryza sativa
SEQ ID NO. 244		
ACC9376.1	U43840	Glycine max
ACC9374.1	U43838	Glycine max
CAC24490.1	AJ305033	Pisum sativum
ACC9375.1	U43839	Glycine max
SEQ ID NO. 249		
CRA48630.1	X68664	Solanum tuberosum
AAG29840.1	AF307843	Chlamydomonas reinhardtii
GAAG29839.1	AF307842	Chlamydomonas reinhardtii
SEQ ID NO. 251		
RAC08401.1	AF053564	Mesembryanthemum crystallinum
RAG14454.1	AF283706	Tulipa gesneriana
RAG14455.1	AF283707	Tulipa gesneriana
RAG14456.1	AF283708	Tulipa gesneriana
SEQ ID NO. 257		
BAA02720.1	DI3502	Glycine max
SEQ ID NO. 259		
BAA48791.1	AP000559	Oryza sativa
CRA10766.1	AIJ32763	Pseudotsuga menziesii
ACA05639.1	AF052206	Chlamydomonas reinhardtii
Euphorbia esula	AF242312	
Solanum tuberosum subsp.	AF126551	
Oryza sativa	AC073405	
Zea mays	X68678	
SEQ ID NO. 262		
AH65777.1	U97522	Vitis vinifera
AH65776.1	U97521	Vitis vinifera
AF523609.1	AF280437	Triticale coerulea
CRA53626.1	X76041	Triticum aestivum
BAA03750.1	D16222	Oryza sativa
CRA01591.1	278202	Persea americana
CA01142.1	X07130	Solanum tuberosum
BAA03751.1	D16223	Oryza sativa
SEQ ID NO. 263		
PA010836.1	U52079	Solanum tuberosum
BMA83356.1	AP000391	Oryza sativa
BMA95068.1	AP001111	Oryza sativa
BMA95077.1	AP001111	Oryza sativa
BMA94511.1	AB041505	Populus nigra
SEQ ID NO. 265		
ACC5496.1	AF052690	Raphanus sativus
ACC59310.1	AF052585	Malus x domestica
ACC59309.1	AF052584	Malus x domestica
CAC27547.1	AF269128	Brassica nigra
ACC27696.1	AF016011	Brassic napus
ACC27694.1	AF016009	Brassic napus
CAC27695.1	AF016010	Brassic napus
CAC27548.1	AF269126	Brassic napus
ACC24863.1	AF500700	Ipomoea nil
ACC2518.1	AP001136	Ficus radiata
BMA33205.1	AB001887	Oryza sativa
BMA33201.1	AB001887	Oryza sativa
BMA33203.1	AB001885	Oryza sativa
BMA33206.1	AB001888	Oryza sativa
BMA33202.1	AB001884	Oryza sativa
BMA33204.1	AB001886	Oryza sativa
BMA33200.1	AB001882	Oryza sativa

[illegible]



[illegible]



AAK19620.1	AF336287	Gossypium hirsutum	AAK29483.1	S68879	Brassica napus
RAA76895.1	AB022686	Lycopersicon esculentum	RAA29484.1	S68727	Brassica napus
AC18914.1	U94748	Petunia x hybrida			
RAA76896.1	AB022687	Lycopersicon esculentum			
SEQ ID NO. 299			SEQ ID NO. 310		
RAA70241.1	AF016845	Lycopersicon esculentum	AAK49184.1	U40402	Hevea brasiliensis
CAB52219.1	Y18519	Silene latifolia	CAAL1219.1	AJ223281	Manihot esculenta
CAB52218.1	Y18517	Silene latifolia	CAB82334.1	Z29091	Manihot esculenta
RAA7517.1	AF250047	Zea mays			
RAA7518.1	AF250048	Zea mays	SEQ ID NO. 313		
AAK19620.1	AF336287	Gossypium hirsutum	RAA80575.1	U13148	Pennisetum ciliare
RAA7519.1	AF250049	Zea mays	RAA734174.1	AF195243	Chlamydomonas reinhardtii
AAK18914.1	U94748	Petunia x hybrida			
RAA76895.1	AB022686	Lycopersicon esculentum	SEQ ID NO. 314		
RAA7386.1	AF134835	Medicago truncatula	AAA34085.1	M93436	Nicotiana tabacum
RAA63030.1	U83921	Daucus carota	AAA34054.1	M96432	Nicotiana tabacum
SEQ ID NO. 300			BAB41080.1	AB052729	Pisum sativum
RAA7517.1	AF250047	Zea mays	SEQ ID NO. 315		
CAB52219.1	Y18519	Silene latifolia	CAB67291.1	X98739	Pisum sativum
CAB52218.1	Y18517	Silene latifolia	CAB67290.1	X98738	Pisum sativum
RAA7518.1	AF250048	Zea mays	CAA10643.1	AJ132349	Antirrhinum majus
RAA7519.1	AF250049	Zea mays			
RAA70241.1	AF016845	Lycopersicon esculentum	SEQ ID NO. 316		
RAA76895.1	AB022686	Lycopersicon esculentum	RAA97366.1	AF039531	Oryza sativa
RAA77819.1	AF220203	Malus x domestica			
RAA76896.1	AB022687	Lycopersicon esculentum	SEQ ID NO. 317		
SEQ ID NO. 305			AAK15322.1	AF332134	Chloroplast Medicago sativa
RAA94598.1	RF024652	Glycine max	RAA33755.2	AB017480	Nicotiana tabacum
RAA94596.1	AF024651	Glycine max	RAA17230.1	AF117339	Nicotiana tabacum
SEQ ID NO. 308			CAB09935.1	AJ012165	Capsicum annuum
RAA54255.1	X76932	Spinacia oleracea	RAA57806.1	AB001684	Chlorella vulgaris
CAA58020.1	X82776	Pisum sativum	CAA66853.1	AF006095	Cicer arietinum
SEQ ID NO. 309			SEQ ID NO. 318		
RAA29482.1	S68726	Brassica napus	RAA01467.1	AF190450	Avicennia marina
AAA66068.1	U14655	Brassica napus	SEQ ID NO. 319		
AAA52230.1	U16751	Brassica oleracea	AAK61839.1	AF025430	Papaver somniferum
			AAK39358.1	AF005655	Eschscholzia californica
			RAA20352.1	S65550	Eschscholzia californica
			RAA17487.1	AF049347	Berberis stolonifera

SEQ ID NO. 320

RAG43998.1 AF215837  
 Apium graveolens var. dulce  
 RAG74566.1 AF215852  
 Nicotiana tabacum  
 RAG74565.1 AF215851  
 Spinacia oleracea  
 RAG74568.1 AF215854  
 Zea mays  
 RAG74567.1 AF215853  
 Solanum tuberosum  
 RAG68813.1 Y07520  
 Chlorelia keesleri  
 RAG39036.1 X55349  
 Chlorelia keesleri  
 RAG19864.1 AB052865  
 Oryza sativa  
 RAG07812.1 Z33775  
 Vicia faba  
 RAG7324.1 X66856  
 Nicotiana tabacum  
 RAG53192.1 X75440  
 Chlorelia keesleri  
 RAG19863.1 AB052884  
 Medicago truncatula  
 RAG06594.1 U38651  
 Vitis vinifera  
 RAG04511.1 A001061  
 Ricinus communis  
 RAG79761.1 L08196  
 Lycopersicon esculentum  
 RAG09419.1 A010942  
 Carrot  
 RAG7077.1 Y09590  
 Vitis vinifera  
 RAG52689.1 A132224  
 Lycopersicon esculentum  
 RAG19862.1 AB052883  
 Oryza sativa  
 RAG06079.1 Z83829  
 Picea abies  
 RAG65398.1 AP000615  
 Oryza sativa  
 RAG5054.1 AF173655  
 Beta vulgaris  
 RAG52688.1 A132223  
 Lycopersicon esculentum  
 RAG52690.1 A132225  
 Lycopersicon esculentum  
 RAG74025.1 AF156696  
 Nicotiana tabacum  
 RAG21545.1 AB042950  
 Catharanthus roseus  
 RAG20522.1 AB004809  
 Solanum tuberosum  
 RAG67395.1 X98890  
 Lycopersicon esculentum  
 RAG38859.1 AF156695  
 Solanum tuberosum  
 RAG82146.1 AF022873  
 Lycopersicon esculentum

SEQ ID NO. 324

RAG71078.1 U62751  
 Zea mays  
 RAG32988.1 AP001550  
 Zea mays  
 RAG31168.1 U04147  
 Zea mays  
 RAG71079.1 U62752  
 Zea mays  
 RAG74042.1 X66411  
 Chlamydomonas reinhardtii  
 RAG1446.1 U62749  
 Zea mays  
 RAG60251.1 X86553  
 Zea mays

Parthenium argentatum

CRA55047.1 X78213

SEQ ID NO. 331

RAG78387.1 Z13997  
 Petunia x hybrida  
 CRA66552.1 X98308  
 Lycopersicon esculentum  
 RAG88222.1 AB028650  
 Nicotiana tabacum  
 RAG81731.1 AB029160  
 Glycine max  
 RAG81730.1 AB029159  
 Glycine max  
 RAG81103.1 U72762  
 Nicotiana tabacum  
 RAG88224.1 AB028652  
 Nicotiana tabacum  
 RAG88223.1 AB028651  
 Nicotiana tabacum  
 RAG81732.1 AB029161  
 Glycine max  
 RAG81736.1 AB028649  
 Nicotiana tabacum  
 RAG81733.2 AB029165  
 Glycine max  
 RAG7217.1 Y11414  
 Oryza sativa  
 RAG72185.1 Y11350  
 Oryza sativa  
 RAG13574.1 A0037425  
 Gossypium hirsutum  
 RAG19616.1 AF336283  
 Petunia x hybrida  
 RAG78386.1 Z13996  
 Antirrhinum majus  
 CRA43399.1 A0066292  
 Oryza sativa  
 RAG72218.1 Y11415  
 Oryza sativa  
 CRA67600.1 X99210  
 Lycopersicon esculentum  
 CRA64614.1 X95296  
 Lycopersicon esculentum  
 RAG36774.1 AF210616  
 Zea mays  
 RAG33500.1 W73028  
 Zea mays  
 RAG19618.1 AF336285  
 Lycopersicon esculentum  
 RAG22556.1 AF161711  
 Pimpinella brachycarpa  
 RAG22556.1 AF161711  
 Oryza sativa  
 RAG67357.1 X99134  
 Lycopersicon esculentum  
 RAG19619.1 AF336286  
 Gossypium hirsutum  
 RAG72186.1 Y11351  
 Oryza sativa  
 CRA65525.1 X96743  
 Oryza sativa  
 RAG19611.1 AF336278  
 Gossypium hirsutum  
 RAG23337.1 D08617  
 Oryza sativa  
 RAG19615.1 AF336282  
 Gossypium hirsutum  
 RAG72187.1 Y11352  
 Oryza sativa  
 CRA50221.1 X70876  
 Hordeum vulgare  
 CRA50224.1 X70879  
 Hordeum vulgare  
 CRA50222.1 X70877  
 Hordeum vulgare  
 RAG19617.1 AF336284  
 Gossypium hirsutum

CAA68235.1	X99573	Hordeum vulgare	BA01855.1	DL1082	Oryza sativa
SEQ ID NO. 334			BA01584.1	DL0752	Oryza sativa
AA02555.1	AF115574	Pisum sativum	AA028284.1	AF136268	Oryza sativa subsp. japonica
AA018669.1	U11716	Pisum sativum	AA027987.1	Y12320	Triticum aestivum
AA033662.1	M18250	Pisum sativum	AA027621.1	AF286317	Triticum aestivum
			AA028735.1	U17897	Zea mays
			AA01854.1	DL1081	Zea mays
SEQ ID NO. 337			AA036471.1	AF072724	Zea mays
CA056319.1	X90009	Pisum sativum	AA061923.1	AF002820	Triticum aestivum
CA040743.1	AJ011885	Solanum tuberosum	CA040749.1	AJ011891	Solanum tuberosum
CA040746.1	AJ011888	Solanum tuberosum	CA040745.1	AJ011887	Solanum tuberosum
BR020748.1	AB029348	Phaseolus vulgaris	CA040744.1	AJ011886	Solanum tuberosum
CA040748.1	AJ011890	Solanum tuberosum	BA085762.1	AB028067	Nicotiana glauca
CA030186.1	AF076679	Triticum aestivum	BA040335.1	AB042940	Ipomoea batatas
BR010161.1	DL0838	Oryza sativa	CA049371.1	X69713	Manihot esculenta
AA067316.1	U65948	Zea mays	CA049370.1	X69712	Manihot esculenta
CA040747.1	AJ011889	Solanum tuberosum	AA072336.1	AF064563	Hordeum vulgare
BR02828.1	AB023498	Oryza sativa	SEQ ID NO. 339		
CA030846.1	AJ000004	Solanum tuberosum	CA096170.1	AJ271719	Spinacia oleracea
CA072154.1	Y11282	Triticum aestivum	AA021277.1	U09194	Nesembryanthemum crystallinum
AA0286319	AF286319	Triticum aestivum	AA034986.1	S79242	Nesembryanthemum crystallinum
BR03738.1	DL6201	Oryza sativa	CA041115.1	X58108	Lycopersicon esculentum
AA030187.1	AF076680	Aegilops tauschii	CA075428.1	AJ271785	Lupinus luteus
AA030184.1	AF064561	Hordeum vulgare	CA082232.1	228386	Ricinus communis
AA026822.1	AF338432	Triticum aestivum	CA000531.1	AJ132581	Hevea brasiliensis
CA056320.1	X80010	Pisum sativum	CA000532.1	AJ132580	Hevea brasiliensis
CA033764.1	AF072725	Zea mays	CA049173.1	U09450	Oryza sativa
AA018571.1	L08065	Zea mays	RA004187.1	U17973	Zea mays
AA017086.1	U66376	Triticum aestivum	CA039454.1	X55981	Zea mays
AA026821.1	AF338431	Aegilops tauschii	CA047043.1	X66412	Chlamydomonas reinhardtii
CA069753.1	AF064560	Hordeum vulgare	CA041116.1	X58109	Lycopersicon esculentum
BR040334.1	AB042937	Ipomoea batatas	CA033628.2	S79816	Schmoochloa phylogon
AA04308.1	X77012	Manihot esculenta	BA004612.1	DL17767	Oryza sativa
CA070038.1	X08786	Solanum tuberosum	AA034559.1	AF082596	Leavenworthia crassa
BR02349.1	AB029349	Phaseolus vulgaris	CA034559.1	AF082595	Leavenworthia stylosa
CA049463.1	X69805	Solanum tuberosum	AA034557.1	AF082594	Leavenworthia stylosa
CA049498.1	AJ273789	Triticum aestivum	AA034555.1	AF082592	Leavenworthia stylosa
CA040799.1	AJ273789	Triticum aestivum	AA034554.1	AF082591	Leavenworthia crassa
CA040980.1	AJ273789	Triticum aestivum	AA046409.1	AF096253	Lycopersicon esculentum
AA027622.1	AF286318	Triticum aestivum	AA034556.1	AF082593	Leavenworthia uniflora
AA050279.2	AF169833	Sorghum bicolor			



BAB03447.1	AF002817	Oryza sativa	CNA73134.1	Y12531	Brassica oleracea
BAA92400.1	AF001366	Oryza sativa	AAA33000.1	M76647	Brassica oleracea
BAA94803.1	AF000559	Oryza sativa	BAH93834.1	U82481	Zea mays
CNA63102.2	X92205	Petunia x hybrida	BAH9179.1	AJ245479	Brassica napus subsp. napu
CNA63101.1	X92204	Petunia x hybrida	BAH92836.1	AB032473	Brassica oleracea
SEQ ID NO. 348			BAH92836.1	Y18921	Brassica oleracea
CNA61745.1	AJ275311	Cicer arietinum	AAA33008.1	M57667	Brassica napus
SEQ ID NO. 350			BAH62232.1	U00443	Brassica napus
BAH05539.1	D26538	Oryza sativa	BAH6285.1	D30049	Brassica rapa
BAH66889.1	AF010584	Oryza sativa	BAH21132.1	D88193	Brassica rapa
BAH74736.1	AB016809	Citrus unshiu	BAH23542.1	D20348	Ipomoea trifida
SEQ ID NO. 354			BAH92837.1	AB032474	Brassica oleracea
BAH71743.1	U75345	Chlamydomonas reinhardtii	BAH07576.1	D38563	Brassica rapa
BAH71744.1	U75346	Chlamydomonas reinhardtii	BAH07577.2	D38564	Brassica rapa
BAH92520.1	AF001383	Oryza sativa	BAH23676.1	AB000970	Brassica rapa
BAH97568.1	AJ007580	Ribes nigrum	BAH24662.1	Y14286	Brassica oleracea
CAC27140.1	AJ132535	Picea abies	BAH21001.1	AB054061	Brassica rapa
CNA56325.1	X80023	Triticum turgidum	CNA73133.1	Y12530	Brassica oleracea
CNA12820.1	AJ299250	Nicotiana tabacum	CNA67145.1	X98520	Brassica oleracea
SEQ ID NO. 360			CNA61878.1	Y18259	Brassica oleracea
CNA72681.1	Y11931	Nicotiana rustica	CNA74661.1	Y14285	Brassica oleracea
CNA63777.1	X93564	Solanum tuberosum	CNA41879.1	Y18260	Brassica oleracea
AAA74441.1	U25027	Glycine max	BAH52097.1	AF088885	Nicotiana tabacum
AAD26119.1	AF108123	Brassica napus	BAH21965.1	AF028699	Brassica napus
SEQ ID NO. 361			AAA33915.1	L27821	Oryza sativa
CNA33765.1	AF072849	Oryza sativa subsp. indica	CNA51836.1	AJ243961	Oryza sativa
SEQ ID NO. 362			BAH92954.1	AF001551	Oryza sativa
BAH34800.1	AF227980	Euphorbia esula	BAH62556.1	AB030083	Populus nigra
SEQ ID NO. 363			SEQ ID NO. 368		Oryza sativa
BAH22813.1	D26015	Nicotiana tabacum	BAB16860.1	AF002537	Oryza sativa
BAH21705.1	AF002913	Oryza sativa	SEQ ID NO. 373		Avena sativa
SEQ ID NO. 366			CNA60608.1	Z83832	Avena sativa
AAD1872.1	AF078082	Phaseolus vulgaris	SEQ ID NO. 374		Oryza sativa
			BAH32917.1	AF003047	Oryza sativa
			CNA56058.1	AJ133787	Oryza sativa
			SEQ ID NO. 375		Zea mays
			BAH67721.1	AF015269	Zea mays

[illegible]

[illegible]

BAB39687.1	AB022917	Marchantia paleacea var.	RAF78016.1	RAF044489	Oryza sativa
diptera			RAF238472	RAF238472	Oryza sativa
ABAB67863.1	U56698	Cerastodon purpureus	RAF4029.1	RAF085164	Hordeum vulgare
ABAB19058.1	U72993	Cerastodon purpureus	RAF06416.1	RAF100766	Oryza sativa
CBA43698.1	XG1458	Scalaginella martensii	RAF68400.1	RAF237570	Oryza sativa
CBA52933.1	X75025	Physocitrullia patens	RAF78021.1	RAF238477	Oryza sativa
ABAB1397.1	U56729	Sorghum bicolor	RAF68397.1	RAF237567	Oryza sativa
AAA33957.1	X34842	Glycine max	RAF06916.1	RAF164020	Oryza sativa
AAA32242.1	X14077	Pisum sativum	RAF04032.1	RAF085167	Hordeum vulgare
AAA33682.1	X37217	Pisum sativum	RAF04033.1	RAF085166	Hordeum vulgare
ABAB21533.2	S84872	Solanum tuberosum	BAB39437.1	RAF003338	Oryza sativa
ABAB7994.1	U84970	Lathyrus sativus	RAF78019.1	RAF238475	Oryza sativa
AAA33115.1	M15265	Cucurbita pepo	SEQ ID NO. 420		
CBA04679.1	AJ001318	Populus tremula x Populus tremuloides	AAA73563.1	L16767	Nicotiana tabacum
BBA99408.1	AB036762	Amoracia rusticana	AAA34109.1	L16787	Nicotiana tabacum
BBA99410.1	AB036764	Amoracia rusticana	CBA98188.1	Z73960	Lotus japonicus
BBA99409.1	AB036763	Amoracia rusticana	CBA98187.1	Z73959	Lotus japonicus
ABAB1398.2	AF182394	Sorghum bicolor	RAAD18006.1	AF112244	Zea mays
BBA31856.1	AB016168	Adiantum capillus-veneris	CBA98168.1	Z73940	Lotus japonicus
BBA31710.1	AB016151	Adiantum capillus-veneris	CBA89049.1	Z49190	Beta vulgaris
CBA74592.1	Y14676	Nicotiana plumbaginifolia	AAA34254.1	L08131	Velox carteri
AAA34092.1	L10114	Nicotiana tabacum	CBA98182.1	Z73954	Lotus japonicus
CBA74908.1	Y14572	Solanum tuberosum	CBA98169.1	Z73941	Lotus japonicus
RAG25725.1	AF309806	Populus balsamifera subsp. trichocarpa	CBA98021.1	Z49152	Beta vulgaris
CBA05293.1	AJ002281	Lycopersicon esculentum	AAA98179.1	U58853	Glycine max
RAB24397.1	S51538	Solanum tuberosum	RAAD28731.1	Z73951	Lotus japonicus
RAD50631.1	AF122901	Lycopersicon esculentum	CBA04701.1	AF112564	Triticum aestivum
CBA00795.2	X57563	Oryza sativa subsp. indica	BAA02112.1	AJ001367	Daucus carota
RAG25726.1	AF309807	Populus balsamifera subsp. trichocarpa	CAC19792.1	D12542	Pisum sativum
SEQ ID NO. 418			CBA98170.1	AJ292320	Oryza sativa
RAF78018.1	AF238474	Oryza sativa	ABAB1504.1	Z73942	Lotus japonicus
RAAD6917.1	AF164021	Oryza sativa	BAA02110.1	U82219	Pisum sativum
RAF78044.1	AF248493	Oryza sativa	CBA09171.1	D12542	Pisum sativum
RAC27489.1	AF077130	Oryza sativa	CBA46112.1	Z73943	Lotus japonicus
RAC02535.1	AF0474260	Oryza sativa	CBA96600.1	X65650	Pisum sativum
NAC49629.1	U51330	Triticum aestivum	CBA020082.1	X64941	Nicotiana plumbaginifolia
AAF68398.1	AF237568	Oryza sativa	BAA02113.1	Z49902	Pisum sativum
			CAC24477.1	D12545	Pisum sativum
			endivia	AJ296336	Cichorium intybus x Cichorium



CRA98175.1	273947	<i>Lotus japonicus</i>	RA83694.1	U9379	<i>Brassica napus</i>
			AD91931.1	AF159386	<i>Secale cereale</i>
SFO ID NO. 421			BAB39813.1	AF002912	<i>Oryza sativa</i>
AD04034.1	AF081794	<i>Nicotiana tabacum</i>	RA56954.1	AF186240	<i>Secale cereale</i>
AD020458.1	AF099969	<i>Nicotiana tabacum</i>	CAS3598.1	X78821	<i>Chlamydomonas reinhardtii</i>
			CRA47409.1	X25335	<i>Chlamydomonas reinhardtii</i>
SFO ID NO. 422			CRA56951.1	X90888	<i>Chlamydomonas reinhardtii</i>
BA11928.1	AB003491	<i>Oryza sativa</i>	AD5358.1	AF160870	<i>Brassica napus</i>
AA333491.1	MT6685	<i>Zea mays</i>	RA52409.1	U76831	<i>Brassica napus</i>
AAAB97526.1	AF042321	<i>Campotheca acuminata</i>	CRA06736.1	AJ005841	<i>Oryza sativa</i>
ABAB97087.1	AF042320	<i>Campotheca acuminata</i>	CRA06735.1	AJ005840	<i>Triticum aestivum</i>
AA33490.1	MT6684	<i>Zea mays</i>	CAM33900.1	X76289	<i>Pisum sativum</i>
AAAC2586.1	AF047024	<i>Chlamydomonas reinhardtii</i>	CAC49358.1	U35831	<i>Pisum sativum</i>
			CAC45826.1	X51462	<i>Spinacia oleracea</i>
			CRA35827.1	X51463	<i>Spinacia oleracea</i>
SFO ID NO. 423			SFO ID NO. 425		
AD04671.1	AF018174	<i>Brassica napus</i>	RA016139.1	AF096299	<i>Nicotiana tabacum</i>
CRA5098.1	X63537	<i>Pisum sativum</i>	RA037515.1	L44134	<i>Cucumis sativus</i>
CRA49357.1	U35830	<i>Pisum sativum</i>	RA037515.1	L44134	<i>Oryza sativa</i>
RA03932.1	AF096314	<i>Mesembryanthemum crystallinum</i>	RA020593	AF193802	<i>Nicotiana tabacum</i>
CRA33082.1	X14959	<i>Spinacia oleracea</i>	BA02107.1	AB022693	<i>Nicotiana tabacum</i>
BA02086.1	AF053294	<i>Oryza sativa</i>	BA077383.1	AB020590	<i>Nicotiana tabacum</i>
CRA32111.1	AF051206	<i>Picea mariana</i>	RA08597.1	AF121353	<i>Petroselinum crispum</i>
AA053695.1	U59380	<i>Brassica napus</i>	CRA88326.1	Z48429	<i>Avena fatua</i>
CRA05081.1	AJ001903	<i>Triticum turgidum subsp. durum</i>	RA031956.1	AF080595	<i>Pimpinella brachycarpa</i>
CRA77947.1	Z11803	<i>Nicotiana tabacum</i>	RA0349527.1	U48831	<i>Petroselinum crispum</i>
BA0404864.1	D21836	<i>Fagopyrum esculentum</i>	BA06031.1	AF026890	<i>Nicotiana tabacum</i>
AAAB51522.1	U92541	<i>Oryza sativa</i>	AD16138.1	AF096298	<i>Nicotiana tabacum</i>
AA05546.1	D26547	<i>Oryza sativa</i>	CAC49529.1	U58540	<i>Petroselinum crispum</i>
BA08067.1	AF286593	<i>Triticum aestivum</i>	CAC35658.1	AF204925	<i>Petroselinum crispum</i>
CRA41415.1	X58827	<i>Nicotiana tabacum</i>	BA016432.1	AB041520	<i>Nicotiana tabacum</i>
CRA94534.1	Z70677	<i>Ricinus communis</i>	CRA88331.1	Z48431	<i>Avena fatua</i>
AD49232.1	AF159387	<i>Lolium perenne</i>	BA077358.1	AB020023	<i>Nicotiana tabacum</i>
AD49234.1	AF159388	<i>Phalaris coerulescens</i>	RA03928.1	U36834	<i>Petroselinum crispum</i>
AD49233.1	AF159388	<i>Phalaris coerulescens</i>	RA035659.1	AF204926	<i>Petroselinum crispum</i>
AD49230.1	AF159385	<i>Hordeum bulbosum</i>	CAB66338.1	AJ279697	<i>Betula pendula</i>
BA025681.1	AB010434	<i>Brassica rapa</i>	RA027591.1	AF121354	<i>Petroselinum crispum</i>
CAM55399.1	X78822	<i>Chlamydomonas reinhardtii</i>	RA01864.1	AF193771	<i>Nicotiana tabacum</i>
CAM56950.1	X90887	<i>Chlamydomonas reinhardtii</i>	AF01863.1	AF193770	<i>Nicotiana tabacum</i>
AF035778.1	AF273844	<i>Brassica oleracea</i> var. <i>alboglabra</i>			
			SFO ID NO. 433		

CRA59800.1	X85805	Zea mays	AA20330.1	AF110268	Oryza sativa
AA860276.1	U09589	Zea mays	CAR85496.1	AJ132894	Medicago truncatula
AA046188.1	AF156691	Nicotiana plumbaginifolia	CAC28223.1	AJ286748	Sesbania rostrata
BA08134.1	D45189	Zostera marina	CAC28222.1	AJ286747	Sesbania rostrata
BA01059.1	D10207	Oryza sativa	CAR85497.1	AJ132893	Medicago truncatula
AA817186.1	U72148	Lycopersicon esculentum	CA884204.1	AF029258	Kosteletzkya virginica
CMA54043.1	U76535	Solanum tuberosum	CAC28220.1	AJ286745	Sesbania rostrata
CA47275.1	X66737	Nicotiana plumbaginifolia			
AA844202.2	AF029256	Kosteletzkya virginica	SEQ ID NO. 434		
CB69823.1	AJ271438	Prunus persica	AAFI3731.1	AF002248	Pisum sativum
BA37150.1	AB022442	Vicia faba	CAW78932.1	Z17226	Pinus sylvestris
CA859799.1	X85804	Phaseolus vulgaris	CAM78901.1	Z16409	Pinus sylvestris
CAC29436.1	AJ310524	Vicia faba	CAM57877.1	X82497	Nicotiana tabacum
AA841898.1	U84891	Mesembryanthemum crystallinum	AAAF90200.1	AF287276	Hordeum vulgare
AA835314.2	S79323	Vicia faba	AAFC67557.1	AF094775	Oryza sativa
AA846186.1	AF156679	Nicotiana plumbaginifolia	CAC32197.1	X14036	Lycopersicon esculentum
CB69824.1	AJ271439	Prunus persica	AAA34159.1	M20241	Lycopersicon esculentum
AAA34052.1	M27888	Nicotiana plumbaginifolia	AAA33711.1	M2317	Petunia x hybrida
AA898344.1	AF275745	Lycopersicon esculentum	CMA57492.1	X81962	Pisum sativum
AA855399.1	AF179442	Lycopersicon esculentum	CMA41406.1	X58516	Pinus sylvestris
AAA34094.1	M80489	Nicotiana plumbaginifolia	CMA59049.1	X84308	Hordeum vulgare
CMA54046.1	X76536	Solanum tuberosum	AA865793.1	AF010321	Oryza sativa
AAA34173.1	M60166	Lycopersicon esculentum	AA055568.1	AF110786	Volvox carterii f. nagariensis
AAA34098.1	M60190	Nicotiana plumbaginifolia	CA441407.1	X58517	Pinus sylvestris
CAC29435.1	AJ310523	Vicia faba	CMA33330.1	X13258	Lycopersicon esculentum
BA06629.1	D31843	Oryza sativa	CMA50763.1	X71965	Pyrobolus stellata
CAB85495.1	AJ132892	Medicago truncatula	AA84545.1	L19651	Chloroplaet. Pisum sativum
CAB85494.1	AJ132891	Medicago truncatula	AA84703.1	AF241525	Alonsoa meridionalis
AA846187.1	AF156683	Nicotiana plumbaginifolia	CAC45523.1	X64198	Nicotiana tabacum
AA831799.1	AF029190	Lilium longiflorum	AA055568.1	AF110787	Volvox carterii f. nagariensis
AAA34099.1	M80491	Nicotiana plumbaginifolia	AA834440.1	M17633	Lycopersicon esculentum
CMA52107.1	X73901	Dunaliella bioculata	AA82759.1	AF094776	Oryza sativa
AA849042.1	U54690	Cucumis sativus	AA823819.1	AF128305	Hordeum vulgare
AA801028.1	AF289025	Vicia faba	CAC46235.1	X65119	Chlamydomonas reinhardtii
AA813348.1	U38965	Nicotiana plumbaginifolia	AA003734.1	AF104633	Chlamydomonas reinhardtii
AAA34096.1	M80492	Nicotiana plumbaginifolia	AA003733.1	AF104632	Lycopersicon esculentum
AAA20600.1	U08984	Zea mays	AAA34186.1	J03558	Chlamydomonas reinhardtii
AA820601.1	U08985	Zea mays	CA828464.1	AF195794	Pinus sylvestris
AA832118.1	AF308816	Hordeum vulgare	CA441404.1	X58514	Pinus sylvestris
CAC10554.1	AJ295612	Hordeum vulgare	CA441405.1	X58515	Pinus sylvestris
AA897591.1	AF263917	Lycopersicon esculentum	CMA78900.1	Z16408	Pinus sylvestris

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CRA11407.1	X58517	Pinus sylvestris	CA11414.1	AJ223496	Brassica juncea
CRA49149.1	X62915	Pisum sativum	BA110902.1	D64037	Pisum sativum
APA68425.1	M34396	Polystichum munium	AA46618.1	M83086	Medicago sativa
CRA57407.1	X81808	Picea abies	AA41903.1	L39371	Medicago sativa
CRA11405.1	X58515	Pinus sylvestris	AA600180.1	AF271995	Orzyza sativa
CRA41404.1	X58514	Pinus sylvestris	AA602549.1	X59925	Sorghum bicolor
RAFA4703.1	AF241525	Alonsoa meridionalis	CRA07610.1	AJ007705	Trifolium aestivum
CRA33303.1	X15894	Sinapis alba	CRA09589.1	AJ011302	Vicia faba
CRA34459.1	X16436	Sinapis alba	RA642288.1	AF268091	Chloris gayana
RAFA23819.1	AF218305	Hordeum vulgare	CRA33317.1	X152335	Zea mays
			BA28170.1	AB012228	Zea mays
			CA46267.1	M65137	Sorghum bicolor
			CRA39197.1	X35664	Sorghum bicolor
			CRA33316.1	X15238	Zea mays
			CRA333663.1	X15642	Zea mays
			CRA32728.2	X14588	Mesembryanthemum crystallinum
			AA045696.1	AF159051	Picea abies
			AA60626.1	X87148	Vanilla planifolia
			CRA60627.1	X87149	Vanilla planifolia
			CRA62747.1	X91404	Welwitschia mirabilis
			SEQ ID NO. 477		
			CRA65042.1	X95727	Brassica juncea
			AAA64415.1	U23189	Zea mays
			CRA44777.1	X63052	Hordeum vulgare
			AAA64414.1	U23188	Zea mays
			AA50310.1	L36064	Prunus persica
			AA870556.1	AF017998	Tetraselmis sp. RG-15
			CRA32108.1	X13908	Orzyza sativa
			BA77273.1	AB026686	Physcomitrella patens
			CRA32659.1	X14506	Pinus sylvestris
			AA80591.1	U21111	Solanum tuberosum
			CA10284.1	AJ031044	Cicer arietinum
			CA34147.1	M14443	Lycopersicon esculentum
			AA80589.1	U20983	Solanum tuberosum
			CRA32109.1	X13909	Orzyza sativa
			BA00536.1	D00641	Orzyza sativa
			AA80593.1	U21113	Solanum tuberosum
			AA825775.1	AF072931	Medicago sativa
			AA80594.1	U21114	Solanum tuberosum
			AAA33396.1	M29334	Lemna gibba
			SEQ ID NO. 476		
			AA18633.1	L49175	Amaranthus hypochondriacus
			CRA5504.1	X64143	Flaveria trinervia
			AA80714.1	AF008939	Gossypium hirsutum
			RA617619.1	AF248080	Flaveria trinervia
			CRA62469.1	X90982	Solanum tuberosum
			CRA47437.1	X67053	Solanum tuberosum
			CRA31956.1	X13660	Mesembryanthemum crystallinum
			AA88829.1	Z48966	Flaveria trinervia
			RA617618.1	AF248079	Flaveria trinervia
			BA01560.1	D10717	Glycine max
			CRA45505.1	X64144	Flaveria trinervia
			CRA41758.1	X59016	Nicotiana tabacum
			CRA65170.1	AJ243416	Lycopersicon esculentum
			CAC28625.1	AJ286750	Sesbania rostrata
			BA03100.1	D13998	Glycine max
			BA23419.1	AB008540	Glycine max
			CRA55700.1	X79090	Picea abies
			CA009807.1	AJ011844	Solanum tuberosum
			CRA65171.1	AJ243417	Lycopersicon esculentum
			CRA32727.1	X14587	Mesembryanthemum crystallinum
			AA031452.1	AF135371	Lotus corniculatus
			AA033164.1	M66661	Saccharum sp.
			BA030094.1	D13997	Brassica napus
			CRA43601.1	X61304	Flaveria trinervia
			CRA81072.1	Z25853	Flaveria trinervia
			AAK28444.1	AF288382	Phaseolus vulgaris
			CRA92209.1	Z68125	Amaranthus hypochondriacus
			CA43709.1	X61489	Zea mays
			CRA11415.1	AJ223497	Brassica juncea

BAR03104.1	DL4002	Lactuca sativa	DI0524	Nicotiana tabacum
CMA47950.1	X67714	Pinus corticis	BA001394.1	Silene vulgaris
AAA33124.1	M16057	Cumulus sativus	AAA33930.1	Silene vulgaris
BAR25592.1	AB012638	Nicotiana sylvestris	BAF61392.1	Persea americana
BAR25396.1	AB012641	Nicotiana sylvestris	CMA38119.1	Zea mays
ABH18209.1	U73218	Triticum aestivum	ABJ010295	Glycine max
AAA50172.1	U01964	Glycine max	BAF34811.1	Glycine max
AAA33636.1	M23532	Physcomitrella patens	AAA09190.1	Alopecurus myosuroides
AAA39883.1	X56538	Pinus sativum	CMA09192.1	Alopecurus myosuroides
ABM61237.1	AF003128	Mesembryanthemum crystallinum	AAA010453	Alopecurus myosuroides
ABM61236.1	AF003129	Mesembryanthemum crystallinum	ABJ010454	Glycine max
AAA18529.1	L07119	Chloroplast Gossypium hirsutum	BAF243379	Alopecurus myosuroides
CMA99993.1	Z75663	Apium graveolens	CMA09191.1	Glycine max
ABM61236.1	AF003127	Mesembryanthemum crystallinum	BAF34812.1	Alopecurus myosuroides
CMA39376.1	X55892	Zea mays	CMA39487.1	Glycine max
CMA32657.1	X14505	Pinus sylvestris	AAA56395.1	Triticum aestivum
AAA05592.1	U21112	Solanum tuberosum	CMA68993.1	Triticum aestivum
BAR24493.1	AB006081	Fagus crenata	AAA33469.1	Petunia x hybrida
CMA57408.1	X81809	Picea abies	AAA33470.1	Zea mays
BAR25389.1	AB012637	Nicotiana sylvestris	AAA20585.1	Zea mays
BAR25391.1	AB012637	Nicotiana sylvestris	CMA56047.1	Zea mays
AACT8690.1	S73603	Pinus thunbergii	AAA56004	Triticum aestivum
CMA32900.1	X14794	Zea mays	AF062403	Oryza sativa
SEQ ID NO. 479			AAA34823.1	Triticum aestivum
RAF72557.1	AF130426	Lycopersicon esculentum	RAF244680	Zea mays
RAF72556.1	AF130425	Lycopersicon esculentum	RAF244674	Zea mays
RAA41463.1	AF130423	Lycopersicon esculentum	AFJ002380	Oryza sativa
BAR83338.1	AB027528	Physcomitrella patens	RAF244677	Zea mays
RAF72555.1	AF130424	Lycopersicon esculentum	ABJ279691	Betula pendula
CMA04247.1	AF000695	Lycopersicon esculentum	RAF244675	Zea mays
CMA04246.1	AF000694	Mougeotia scalaris	RAF244673	Zea mays
SEQ ID NO. 480			RAF244679	Zea mays
AAAD33609.1	AF133302	Brassica rapa subsp. pekinensis	AAA05355.1	Oryza sativa
RAA04130.1	AF203879	Oryza sativa	SEQ ID NO. 482	
SEQ ID NO. 481			BAF31452.1	Raphanus sativus
CMA55039.1	X78203	Hycoscyamus muticus	ABJ010416	Gossypium hirsutum
ABM65163.1	AF002692	Solanum commersonii	U62778	Antirrhinum majus
CTA96431.1	Z71749	Nicotiana plumbaginifolia	X70417	Zea mays
			RAF26770.1	Hordeum vulgare
			RAF90121.1	Zea mays
			AAK26768.1	Zea mays
			AAK26769.1	Zea mays

AA010495.1	U86763	Triticum aestivum	AA043343.1	AF159139	Gossypium hirsutum
AA012711.1	D41669	Raphanus sativus	AA045488.1	AV013256	Lycopersicon esculentum
AA029372.1	AF118381	Brassica napus	AA078756.1	AF271358	Oryza sativa
AA010494.1	U86761	Triticum aestivum	AA078756.1	AF271356	Oryza sativa
AA051139.1	U92651	Brassica oleracea var. botrytis	CA043062.1	AJ133000	Craterostigma plantagineum
AA056553.1	X80266	Hordeum vulgare	CA043063.1	AJ133001	Craterostigma plantagineum
BA012722.1	X80266	Pyrus communis	BA19467.1	AB001920	Oryza sativa
BA004824.8	U92651	Pyrus communis	BA19466.1	AB001919	Oryza sativa
BA005017.1	D25534	Oryza sativa	CA066620.1	784822	Nicotiana tabacum
BA009245.1	AF037061	Oryza sativa	CA066620.1	784822	Nicotiana tabacum
AA026767.1	AF037061	Zea mays	AA049182.1	AF15425	Lycopersicon esculentum
AA017284.1	X3291	Zea mays	AA051392.1	U92656	Vigna unguiculata
CA04952.1	X35650	Mesembryanthemum crystallinum	AA017208.1	AF113918	Brassica oleracea var. cap
CA04952.1	X35650	Tulipa gesneriana	AA078487.1	AF090445	Brassica oleracea
CA04952.1	X35650	Medicago sativa	AA045486.1	AV013253	Lycopersicon esculentum
SEQ ID NO. 483			BA011135.1	D73410	Zea mays
CAC28135.1	AF034572	Glycine max	BA070463.1	U96438	Pimpinella brachycarpa
CAC19494.1	AJ293343	Zea mays	AA078755.1	AF271357	Oryza sativa
BA056829.1	AB026558	Oryza sativa	AA079125.1	U85482	Brassica oleracea var. capitata
CA074725.1	Y14339	Lycopersicon esculentum	AA017209.1	AF113919	Brassica oleracea var. capitata
AA051521.1	U92540	Oryza sativa	AA078486.1	AF090444	Brassica oleracea
BA056830.1	AB026559	Oryza sativa	BA011136.1	D73411	Oryza sativa
BA059540.1	AB032061	Oryza sativa	AA004095.1	L33686	Ricinus communis
BA056832.1	AB026561	Oryza sativa	AA037305.1	U72693	Ricinus communis
CA056560.1	X96974	Spinacia oleracea	AA045485.1	AV013252	Lycopersicon esculentum
AA082138.1	AF022735	Oryza sativa	AA045485.1	AV013252	Lycopersicon esculentum
CAC35982.1	AF068914	Petunia x hybrida	AA078757.1	AF201661	Lycopersicon esculentum
BA071128.1	D37886	Oryza sativa	AA05818.1	AF195614	Nicotiana tabacum
AA070292.1	AF255338	Glycine max	AA050297.1	AV013254	Lycopersicon esculentum
BA073470.1	AF227625	Euphorbia esula	SEQ ID NO. 489		
BA078755.1	AB023482	Oryza sativa	CAC34417.1	AJ311624	Pisum sativum
BA056832.1	AF020669	Oryza sativa	AA084635.1	U21743	Brassica napus
BA059522.1	AF020669	Oryza sativa	BA017846.1	AB015593	Oryza sativa
BA056831.1	AB026560	Oryza sativa	CA004836.1	AF032975	Oryza sativa
BA021651.1	D78173	Spinacia oleracea	AA005682.1	AF051156	Oryza sativa
BA056833.1	AB026562	Oryza sativa	BA074702.1	AB010876	Oryza sativa
SEQ ID NO. 484			CA075907.1	Y15962	Hordeum vulgare
AA084193.1	AF029242	Pisum sativum	CAB7393.1	AJ276491	Phaseolus vulgaris
SEQ ID NO. 487			BA008266.1	D45425	Ipomoea nil
AA045487.1	AV013255	Lycopersicon esculentum	AA036666.1	AF310017	Beta vulgaris
			AA036667.1	AF310018	Beta vulgaris
			AA028807.1	AF310960	Linum usitatissimum

AF3100116	Beta vulgaris	CAA99050.1	Z49191	Beta vulgaris	CAA99050.1	Z49191
AJ222979	Pisum sativum	RAF19343.1	AF250327	Oryza sativa	RAF19343.1	AF250327
AK11031.1	Oryza sativa	AD34356.1	AF126053	Zea mays	AD34356.1	AF126053
CBM55394.1	Oryza sativa	AD34358.1	AF146055	Zea mays	AD34358.1	AF146055
BRM39980.1	Oryza sativa	AA597458.1	AF042350	Brassica rapa	AA597458.1	AF042350
AF003018	Oryza sativa	AAA96980.1	L19093	Nicotianodon Pismu sativ	AAA96980.1	L19093
AJ323974	Oryza sativa	CAA10815.2	AD222545	Nicotiana tabacum	CAA10815.2	AD222545
AR028454	Artriplex lentiformis	AA343429.1	AF233446	Physcomitrella patens	AA343429.1	AF233446
AF027694	Oryza sativa	CAA98190.1	Z73962	Lotus japonicus	CAA98190.1	Z73962
AF024338	Mesembryanthemum crystallinum	CBM52075.1	AF251210	Medicago sativa	CBM52075.1	AF251210
AF0312671	Nicotiana plumbaginifolia	CAA85093.1	S79308	Gossypium hirsutum	CAA85093.1	S79308
AF033030.1	Pisum sativum	MAC2124.1	AF051223	Picea mariana	MAC2124.1	AF051223
AJ250832	Pisum sativum	ADA7828.1	AF165925	Gossypium hirsutum	ADA7828.1	AF165925
AJ250834	Pisum sativum	CAA55094.1	S79309	Gossypium hirsutum	CAA55094.1	S79309
AJ250933	Hordeum vulgare	RAF34340.1	AF233447	Physcomitrella patens	RAF34340.1	AF233447
AF049065	Pinus radiata	BRM4494.1	AF029510	Oryza sativa	BRM4494.1	AF029510
AJ237943	Triticum aestivum	RAA34355.1	AF126052	Zea mays	RAA34355.1	AF126052
Oryza sativa		RAF34323.1	AF239751	Tradescantia virginiana	RAF34323.1	AF239751
Hordeum vulgare		BAH4775.1	AF011859	Oryza sativa	BAH4775.1	AF011859
Solanum tuberosum		RAA84492.1	AF023508	Oryza sativa	RAA84492.1	AF023508
Triticum aestivum		RAA84493.1	AF023509	Oryza sativa	RAA84493.1	AF023509
Lycopersicon esculentum		RAA4357.1	AF126054	Zea mays	RAA4357.1	AF126054
Oryza sativa		RAA45722.1	AF161018	Erythrum cheiri	RAA45722.1	AF161018
Pinus caribaea		AAA34251.1	L08128	Volvox carteri	AAA34251.1	L08128
Hordeum vulgare		CAA04701.1	Z73944	Daucus carota	CAA04701.1	Z73944
Triticum aestivum		CAA98172.1	AJ001367	Lotus japonicus	CAA98172.1	AJ001367
Triticum aestivum		CAA90081.1	Z49901	Pisum sativum	CAA90081.1	Z49901
		CAA90082.1	Z49902	Pisum sativum	CAA90082.1	Z49902
		CAA90080.1	Z49900	Pisum sativum	CAA90080.1	Z49900
Hevea brasiliensis		CAA98176.1	Z73948	Lotus japonicus	CAA98176.1	Z73948
Hevea brasiliensis		CAA98175.1	Z73947	Lotus japonicus	CAA98175.1	Z73947
Hevea brasiliensis		CAA49600.1	X69980	Lycopersicon esculentum	CAA49600.1	X69980
		CAA98174.1	Z73946	Lotus japonicus	CAA98174.1	Z73946
Physcomitrella patens		CAA99021.1	Z49452	Beta vulgaris	CAA99021.1	Z49452
Physcomitrella patens		RAH1726.1	U38471	Brassica rapa	RAH1726.1	U38471
Physcomitrella patens		AAA34253.1	L08130	Volvox carteri	AAA34253.1	L08130
SQO ID NO. 492						
AF0146341	Physcomitrella patens	CAA55119.1	X63558	Brassica oleracea	CAA55119.1	X63558
AF146340	Physcomitrella patens	CAA07804.1	Z83769	Nicotiana tabacum	CAA07804.1	Z83769
AD26198.1	Oryza sativa subsp. japonica	RAA74625.1	U31773	Oryza sativa	RAA74625.1	U31773
AF329814	Oryza sativa subsp. japonica					
AAAF28745.1	Oryza sativa					
AF218381	Lotus japonicus					
Z73961	Lotus japonicus					
CAA98189.1	ClCler arletianum					
RNA76424.1						
SQO ID NO. 490						
CAA62537.1	Hevea brasiliensis	CAA62537.1	AJ012583			
CAA33357.1	Hevea brasiliensis	CAA33357.1	M36986			
CAA05978.1	Hevea brasiliensis	CAA05978.1	AJ003196			
SQO ID NO. 491						
AD44769.1	Physcomitrella patens	AD44769.1	AF146341			
AD44768.1	Physcomitrella patens	AD44768.1	AF146340			
AD26198.1	Physcomitrella patens	AD26198.1	AF154776			
AF329814	Oryza sativa subsp. japonica	AAAF28745.1	AF329814			
AAAF27450.1	Oryza sativa subsp. japonica	AAAF27450.1	AF218381			
AF218381	Oryza sativa	AAAF27450.1	Z73961			
Z73961	Lotus japonicus	CAA98189.1	Z73961			
CAA98189.1	ClCler arletianum	RNA76424.1	Z73961			
RNA76424.1						
SQO ID NO. 490						
CAA62537.1	Hevea brasiliensis	CAA62537.1	AJ012583			
CAA33357.1	Hevea brasiliensis	CAA33357.1	M36986			
CAA05978.1	Hevea brasiliensis	CAA05978.1	AJ003196			
SQO ID NO. 491						
AD44769.1	Physcomitrella patens	AD44769.1	AF146341			
AD44768.1	Physcomitrella patens	AD44768.1	AF146340			
AD26198.1	Physcomitrella patens	AD26198.1	AF154776			
AF329814	Oryza sativa subsp. japonica	AAAF28745.1	AF329814			
AAAF27450.1	Oryza sativa subsp. japonica	AAAF27450.1	AF218381			
AF218381	Oryza sativa	AAAF27450.1	Z73961			
Z73961	Lotus japonicus	CAA98189.1	Z73961			
CAA98189.1	ClCler arletianum	RNA76424.1	Z73961			
RNA76424.1						
SQO ID NO. 492						
CAA55119.1	Brassica oleracea	CAA55119.1	X63558			
Z83769	Nicotiana tabacum	CAA07804.1	Z83769			
U31773	Oryza sativa	RAA74625.1	U31773			



CAB07803.1	Z93768	Nicotiana tabacum	BA92337.1	AB038790	Vicia faba
CAA05494.1	AJ002485	Medicago sativa	BA92336.1	AB038789	Vicia faba
BA92244.1	AB038648	Vicia faba			
CAA07470.1	AJ007332	Catharanthus roseus	SEQ ID NO. 493		Mesembryanthemum crystallinum
CAA05492.1	AJ002486	Medicago sativa	AA511109.1	AF176040	Lycopersicon esculentum
CAA05494.1	AJ002488	Medicago sativa	CAA51821.1	X73419	Pisum sativum
AA333545.1	M60215	Zea mays	AA564427.1	L29077	Lycopersicon esculentum
CAA02263.1	Z28627	Acetabularia cliftonii	AA341425.1	L23762	Zea mays
CAA02264.1	Z28632	Acetabularia cliftonii	AB88617.1	AF034946	Oryza sativa
CA956766.1	X67088	Medicago sativa subsp. x varia	AB021168.1	U15971	Brassica oleracea
AD388956.1	AF156101	Chlamydomonas reinhardtii	BA21006.1	D17785	Oryza sativa
CA907805.1	Z93770	Medicago sativa	AD42244.1	AF031821	Catharanthus roseus
CAA04666.1	X57438	Nicotiana tabacum	BA940310.1	AB026055	Nicotiana tabacum
CA986254.1	Z48221	Phaseolus vulgaris	BA940311.1	AB026056	Nicotiana tabacum
AA41126.1	AF159061	Brassica napus	AA34310.1	M62720	Triticum aestivum
CBA46506.1	AJ007496	Oryza sativa subsp. indica	AA58111.1	AF262934	Avicennia marina
AD22116.1	AF134552	Nicotiana tabacum	AA573016.1	X82938	Lycopersicon esculentum
BA92699.1	AB039918	Oryza sativa subsp. indica	CAA06493.1	AJ005348	Cicer arietinum
CAA49849.1	X70399	Vicia faba	BA9490392.1	AF001081	Oryza sativa
AD48068.1	AF173881	Medicago sativa	AAC12662.1	AF032468	Zea mays
CA981395.1	Z26654	Oryza sativa subsp. indica	CRA05772.1	AJ002959	Zea mays
CA907807.1	X57439	Acetabularia cliftonii	AA572280.1	AF054240	Mesembryanthemum crystallinum
CAA04687.1	Z93772	Nicotiana tabacum	AA583513.1	AF008910	Prunus ameniaca
CAA07471.1	AJ007333	Brassica napus	AA573236.1	AF180143	Glycine max
BA92698.1	AB039917	Catharanthus roseus	AA343409.1	M28059	Triticum aestivum
BA92697.1	AB039916	Vicia faba	CRA10494.1	AJ131733	Pseudotsuga menziesii
AA58253.1	AF283668	Oryza sativa subsp. indica	AAC32141.1	AF051240	Picea mariana
CA981126.1	Z26041	Helianthus annuus	SEQ ID NO. 495		
AA57283.1	AF097182	Oryza sativa	D28777		Citrus limon
CRA11129.1	AJ298629	Fagus sylvatica	BA905965.1	D28777	Solanum lanatus
BA91806.1	U49113	Oryza sativa	RA020861.1	AB029511	Solanum tuberosum
AD09953.1	AF107464	Hevea brasiliensis	RAC25835.1	AF044172	Solanum tuberosum
CA987385.1	Z47076	Malus x domestica	AD023508.1	AF073697	Oryza sativa
CA907806.1	Z93771	Nicotiana tabacum	AA023507.1	AF073695	Oryza sativa
CRA11128.1	AF298628	Fagus sylvatica	BA925798.1	X85803	Zea mays
CA987387.1	Z47078	Malus x domestica	RA020862.1	AB029512	Solanum tuberosum
BA92333.1	AB038786	Vicia faba	RAC25836.1	AF044173	Solanum tuberosum
CA987386.1	Z47077	Malus x domestica	BA935442.1	D14722	Spinacia oleracea
BA92338.1	AB038787	Vicia faba	CRA17329.1	X66860	Spinacia oleracea
BA92334.1	AB038781	Vicia faba	CAC12819.1	AJ299249	Nicotiana tabacum

ABA040503	Allium tuberosum	ABA34816.1	AF244673	Zea mays
ABA02063.1	Solanum tuberosum	ACA05354.1	AF002380	Oryza sativa
ACA06024	Cleor arietinum	AGA48421.1	AF244681	Zea mays
ACA09469.1	Oryza sativa	CA05355.1	AF002361	Oryza sativa
AD42113	Spinacia oleracea			
BA07177.1	Oryza sativa	SEQ ID NO. 498		
BA073696	Oryza sativa	ABA05871.2	U63784	Catharanthus roseus
BA073698	Oryza sativa	CBA65911.1	AJ249831	Lemna minor
BAAD23910.1	Pyrus pyrifolia	AA18999.1	AF212155	Allium cepa
BAAF78529.1		ACA26855.1	AF069951	Enteromorpha intestinalis
SEQ ID NO. 497				
ABA243377	Glycine max	SEQ ID NO. 499		
ABA243379	Glycine max	ACA262017.1	AF077547	Brassica juncea
ACA68993.1	Petunia x hybrida	BAF26434.1	AF220097	Brassica juncea
CBA38119.1	Zea mays	BAF26435.1	AF220098	Brassica juncea
CA010451	Alpecurus myosuroides	ABA60880.1	AF002017	Dianthus caryophyllus
CA010453	Alpecurus myosuroides	BAF22972.1	AF127241	Nicotiana tabacum
CA010452	Alpecurus myosuroides	BAF25685.1	AB012873	Nicotiana sylvestris
CA010295	Zea mays	CBA65773.1	Z37540	Nicotiana sylvestris
CA010454	Alpecurus myosuroides	ABA65799.1	AJ251898	Datura stramonium
CA010451	Glycine max	ABA092004.1	U35367	Glycine max
CA010454	Alpecurus myosuroides	BAF4799.1	AF000559	Oryza sativa
CA055039.1	Hoscyamus muticus	BAF47897.1	U63832	Dianthus caryophyllus
U12679	Silene vulgaris	BAF42971.1	AF127420	Nicotiana tabacum
M84968	Silene vulgaris	BAF42970.1	AF127239	Nicotiana tabacum
U79515	Silene vulgaris	ACA68511.1	AF045666	Theobroma cacao
CA010453	Solanum commersonii	CA05585.1	U96791	Vitis vinifera
ABA65163.1	Nicotiana tabacum	CA05585.1	U96791	Lycopersicon esculentum
BA011394.1	Nicotiana tabacum	ACA61347.1	L16582	Arabidopsis arenosa
CA034823.1	Zea mays	ACA68530.1	AF045685	Arabidopsis arenosa
CA064007.1	Oryza sativa	ACA68529.1	AF045684	Capsella bursa-pastoris
CA064031.1	Nicotiana plumbaginifolia	ACA68525.1	AF045680	Arabid drummondii
M16901	Zea mays	ACA68526.1	AF045681	Barbarea vulgaris
M16902	Zea mays	ACA68535.1	AF045680	Nasturtium officinale
CA034823.1	Zea mays	ACA68534.1	AF045689	Thlaspi alveale
CA034823.1	Zea mays	ACA68533.1	AF045688	Thlaspi arvense
CA034823.1	Zea mays	ACA68532.1	AF045688	Stanleya pinnata
CA034823.1	Zea mays	ACA68531.1	AF045687	Sisymbrium altissimum
CA034823.1	Zea mays	ACA68530.1	AF045686	Aethionema grandiflora
CA034823.1	Zea mays	ACA68529.1	AF045683	Brassica oleracea
CA034823.1	Zea mays	ACA68528.1	AF045674	Arabidopsis arenosa
CA034823.1	Zea mays	ACA68527.1	AF045682	Brassica nigra
CA034823.1	Zea mays	ACA68526.1	AF045682	Brassica nigra



AA632658.1	AF253970	Picea abies	AAA34292.1	M1277	Triticum aestivum
AA224925.3	AF134116	Hyacinthus orientalis	AA98456.1	U16825	Chlamydomonas reinhardtii
CNC12822.1	AJ299252	Nicotiana tabacum	AA98449.1	U16725	Chlamydomonas reinhardtii
RB03248.1	AB037183	Oryza sativa	AA98445.1	U16724	Chlamydomonas reinhardtii
RB016083.1	AB036883	Oryza sativa	CA59110.1	X84376	Zea mays
RB014587.1	AF071893	Prunus armeniaca	CA30036.1	X06964	Volvox carterii
RAF63205.1	AF245119	Mesembryanthemum crystallinum	CA330034.1	X06963	Volvox carterii
RA078738.1	AB023482	Oryza sativa	CA364985.1	X95689	Allium cepa
RAF76898.1	AF274033	Atriplex hortensis	SEQ ID NO. 550		
ANG43845.1	AF211527	Nicotiana tabacum	RA046491.1	AF135014	Zea mays
ANG43548.1	AF211531	Nicotiana tabacum	BA050623.1	AF001129	Oryza sativa
ANG43546.1	AF211550	Nicotiana tabacum	BA077024.1	AB026124	Lithospermum erythrorhizon
SEQ ID NO. 539			SEQ ID NO. 551		
BA09645.1	D63331	Nicotiana tabacum	AA031886.1	AF059484	Gossypium hirsutum
BA011770.1	D83078	Nicotiana tabacum	AA049651.1	U68461	Striga asiatica
BA077679.1	AB027054	Oryza sativa	CA039280.1	X55751	Solanum tuberosum
SEQ ID NO. 541			AA049652.1	U68462	Striga asiatica
CB056756.1	AC011589	Pisum sativum	AA033692.1	AF172094	Picea rubens
RA01907.1	AF030516	Pisum sativum	AA071264.1	AF246714	Phalaenopsis sp. 'True Lady'
AA048834.1	AC084218	Oryza sativa	AA010041.1	AF288226	Setaria italica
SEQ ID NO. 542			AA041039.1	AF112538	Malva pusilla
RA029703.1	AF140490	Oryza sativa	CA045149.1	X63603	Nicotiana tabacum
SEQ ID NO. 545			BA031643.1	AF143208	Vigna radiata
CA024924.1	X00043	Triticum aestivum	BA069214.1	AB032361	Mimosa pudica
CA01914.1	279638	Sebania rostrata	CA039278.1	X55749	Solanum tuberosum
AA066948.1	U10042	Pisum sativum	RA037141.1	AF111812	Brassica napus
AA033476.1	M13377	Zea mays	RA071265.1	AF246715	Phalaenopsis sp. 'True Lady'
AA033475.1	M13370	Zea mays	CA039281.1	X55752	Solanum tuberosum
AA033474.1	M36659	Zea mays	RA038512.1	U81047	Pisum sativum
CA034411.1	X18375	Flaveria trinervia	RA018642.1	U81046	Pisum sativum
RA046106.1	AC073166	Oryza sativa	RA018641.1	U76191	Pisum sativum
BA05120.1	AB018245	Solanum melongena	CA062028.1	X90378	Pisum sativum
CB01913.1	279637	Sebania rostrata	CA078999.1	X67666	Pisum sativum
CA048924.1	X69180	Lycopersicon esculentum	CA033874.1	X15865	Oryza sativa
CA048923.1	X69179	Lycopersicon esculentum	RA082624	AF282624	Helianthus annuus
BA094924.1	AF038387	Capiscum annuum	CA048609.1	X68649	Pisum sativum
CA056154.1	X79715	Lolium temulentum	RA064127.1	AF091809	Anemia phyllitidis
			RA040438.1	AF234528	Avena nuda

CAA39279.1	X55750	Solanum tuberosum	BAA96628.1	AF002482	Oryza sativa
CAA55923.1	X79378	Sorghum bicolor	BAA05649.1	D26602	Nicotiana tabacum
CAA34356.1	X16280	Oryza sativa	CAA57898.1	X82548	Hordeum vulgare
AA016054.1	AF061019	Coloechaete scutata	AA0962479	X95977	Oryza sativa
AA038514.1	U81049	Pisum sativum	CAA65244.1	X95997	Solanum tuberosum
AA018644.1	U71693	Pisum sativum	AA023589.1	AF128443	Glycine max
CAA33873.1	X15864	Oryza sativa	AA019402.1	AF203480	Lycopersicon esculentum
AA064128.1	AF091810	Artemisia phyllitidis	AA019403.1	AF203481	Lycopersicon esculentum
AA044573	AF044573	Brassica oleracea	CAA66556.1	X65606	Hordeum vulgare
AA050572.1	AF049106	Glycine max	CAA07813.1	AJ007990	Hordeum vulgare
AA016055.1	AF061020	Masostigma viride	AA019401.1	AF203479	Glycine max
AA07202.1	AF281323	Magnolia denudata	AA083688.1	AB011967	Oryza sativa
AA09450.1	D50839	Chlamydomonas reinhardtii	AA005057.1	U55768	Oryza sativa
AA09449.1	D50838	Chlamydomonas reinhardtii	AA017800.1	AF090835	Nesomeriaethemum crystalli
AA034243.1	H53963	Volvox carteri	AA028793.1	AF143593	Nicotiana tabacum
AA016053.1	AF061018	Scherffelia dubia	AA052098.1	U70923	Nicotiana tabacum
AA033433.1	J01238	Zea mays	CAA62993.1	Z30332	Spinacia oleracea
AA064126.1	AF091808	Artemisia phyllitidis	CAA06554.1	X65604	Hordeum vulgare
AA033871.1	X15862	Oryza sativa	BAA34675.1	AB011670	Triticum aestivum
AA033940.1	J01297	Glycine max	SEQ ID NO. 554		
AA025911.1	AF013098	Nannochloris bacillaris	AA069017.1	AF261654	Dianthus caryophyllus
AA048335.1	AF090969	Selaginella apoda	CA009582.1	AJ298994	Fagus sylvatica
AA048334.1	AF090968	Selaginella apoda	AA000419.1	AF247568	Nicotiana tabacum
CAA39276.1	X55746	Solanum tuberosum	SEQ ID NO. 555		
SEQ ID NO. 553			AA020002.1	AF213936	Prunus dulcis
AA067262.1	AF165186	Nicotiana tabacum	AA032034.1	AF023472	Hordeum vulgare
CAA04261.2	AJ000728	Lycopersicon esculentum	AA016713	AF016713	Lycopersicon esculentum
AA033393.1	U83625	Zea mays	AA016006	AF140606	Oryza sativa
BA032405.1	AB055514	Nicotiana tabacum	AA016016.1	AF080545	Nepenthes alata
CA024705.1	AJ302651	Nicotiana tabacum	CA007206.1	AJ278966	Brassica napus
AA040578.1	AF216314	Oryza sativa	AA065642.1	AF000392	Lotus japonicus
BA06731.1	D31964	Nicotiana tabacum	CA093316.1	Z69370	Cucumis sativus
AA033079.1	AF325168	Nicotiana tabacum	BA019760.1	AB052788	Glycine max
BA087508.1	AJ009609	Brassica napus	BA019757.1	AB052785	Glycine max
CA008757.1	AJ009608	Brassica napus	BA019756.1	AB052784	Glycine max
AA05648.1	D26601	Nicotiana tabacum	AA042860.1	AF154930	Prunus dulcis
AA03436.1	AF172282	Oryza sativa	SEQ ID NO. 556		
AA080995.1	AJ010091	Brassica napus	AA020848.1	AB004932	Vigna radiata
AA080997.1	AJ010093	Brassica napus			
CAA071142.1	X10036	Cucumis sativus			

CRA48297.1	X68215	Pisum sativum	SEQ ID NO. 561	Oryza sativa	Daucus carota
CRA48298.1	X68216	Pisum sativum	CRA65456.2	X96681	Lupinus angustifolius
RAB20849.1	AB004933	Vigna radiata	RAA05622.1	D26573	Lupinus angustifolius
RAA33945.1	X03919	Glycine max	RAA05625.1	D26576	Medicago sativa
RAA33944.1	X03920	Glycine max	RAB21017.1	D26578	Medicago sativa
RAB20847.1	AB004931	Vigna radiata	RAA05624.1	D26575	Glycine max
CRA48300.1	X68216	Pisum sativum	RAA05623.1	D26574	Oryza sativa
CRA48299.1	X68217	Pisum sativum	SEQ ID NO. 563		Daucus carota
AAD50276.1	AF169630	Glycine max	RAA33134.1	M92660	Lupinus angustifolius
SEQ ID NO. 558		Brassica napus	RAA50160.1	I23875	Lupinus angustifolius
CRA11857.1	AJ224160	Helianthus annuus	RAA33408.1	M92094	Medicago sativa
CRA60621.1	X87143	Ricinus communis	RAA46610.1	I25334	Medicago sativa
AAD01240.1	AF005096	Borago officinalis	CMA43779.1	X61577	Glycine max
RAA64327.1	AF133728	Borago officinalis	AAC50015.1	AF034210	Glycine max
AAD01410.1	AF007561	Borago officinalis	AAC50014.1	AF034210	Oryza sativa
AAC49700.1	U79010	Triticum aestivum	RAA03504.1	D14673	Panicum miliaceum
AAD10250.1	AF031194	Ceratodon purpureus	CMA45023.1	X63429	Panicum miliaceum
CAB94992.1	AJ250734	Ceratodon purpureus	RAA04992.1	D25322	Lotus japonicus
CAB94993.1	AJ250735	Physcomitrella patens	CMA63894.1	X94184	Glycine max
CRA11033.1	AJ222981	Physcomitrella patens	RAA33942.1	I09702	Lupinus angustifolius
CRA11032.1	AJ222980	Physcomitrella patens	CMA42430.1	X59761	Lotus corniculatus
SEQ ID NO. 559		Oryza sativa subsp. japonica	AAC12674.1	AF029898	Chloroplast glycine max
AAC39333.1	AF030052	Gossypium hirsutum	RAA08106.1	D45076	Panicum miliaceum
AAD39534.2	AF150630		RAA06611.1	I25335	Medicago sativa
SEQ ID NO. 560		Lycopersicon esculentum	RAA68396.1	U89494	Canavalia lineata
RAD01600.1	AF016713	Hordeum vulgare	CMA45022.1	X63428	Panicum miliaceum
AAC2034.1	AF023472	Brassica napus	CMA45024.1	X63430	Panicum miliaceum
CAC07206.1	AF278966	Prunus dulcis	RAA04993.1	D25323	Panicum miliaceum
RAA070002.1	AF213936	Prunus dulcis	RAA98603.1	I40579	Glycine max
RAA07875.1	AF140606	Oryza sativa	RAA23815.1	D67043	Oryza sativa
CRA93316.1	Z69370	Cucumis sativus	RAA23814.1	D67042	Oryza sativa
AAB69642.1	AF000392	Lotus japonicus	SEQ ID NO. 564		Lolium perenne
RAB19757.1	AB052788	Glycine max	AF37732.1	AF052221	Lithospermum erythrorhizon
RAB19756.1	AB052784	Glycine max	RAA08366.2	D49367	Lithospermum erythrorhizon
RAB19760.1	AB052788	Nepenthes alata	RAA08365.1	D49366	Glycine max
AAD16016.1	AF080545	Prunus dulcis	CAC36095.1	X69955	Rubus idaeus
AAD42860.1	AF154930		RAA91308.1	AF239685	

RAAF1309.1	AF239686	Rubus idaeus	RAA64913.1	U23787	Sorghum bicolor
RAAF18638.1	U50846	Nicotiana tabacum	RAAF74000.2	AF144507	Pseudotsuga menziesii
RAAF7928.1	D43773	Nicotiana tabacum	RAAF74021.2	AF144528	Pseudolarix amabilis
RAAF39366.1	AF008184	Populus x generosa	SEQ ID NO. 565		
RAAF4504.1	AF041050	Populus tremuloides	RAAC32149.1	AF051249	Picea mariana
RAAF43823.1	AF041049	Capsicum annuum	RAAF43837.1	AF166114	Chloroplaest Mesostigma vir
RAAF4503.1	AF041049	Populus tremuloides	RAAC72192.1	AF069908	Zea mays
RAAF18637.1	U50845	Nicotiana tabacum	RAAC72193.1	AF069909	Zea mays
RAAF39812.1	H62735	Solanum tuberosum	RAAC72194.1	AF069910	Zea mays
RAAF40664.1	AF150686	Solanum tuberosum	RAA020277.1	U56697	Pisum sativum
RAAF7733.1	AF052222	Lolium perenne	RAA020277.1	AF124755	Pisum sativum
RAAF7733.1	AF052223	Lolium perenne	RAA038941.1	AF143812	Pisum sativum
RAAF91310.1	AF239687	Rubus idaeus	RAA038941.1	AF143812	Lycopersicon esculentum
RAAF39365.1	AF008183	Populus x generosa	RAA05390.2	AF182286	Artemisia annua
RAAF31696.1	X13324	Petroselinum crispum	SEQ ID NO. 566		
RAAF31697.1	X13325	Petroselinum crispum	RAA02018.1	D11465	Spinacia oleracea
RAAF36850.1	X52623	Oryza sativa	RAA86071.1	Z37990	Pisum sativum
RAAF42382.1	U39404	Pinus taeda	RAAF91407.1	AF271362	Lolium perenne
RAAF42383.1	U39405	Pinus taeda	RAAC25999.1	AF072289	Mesembryanthemum crystallinum
RAAF32669.1	U12013	Pinus taeda	RAAF65509.1	AF108881	Capsicum annuum
RAAF92668.1	U12012	Pinus taeda	RAAF67996.1	U72142	Helianthus annuus
RAAF40665.1	AF150687	Solanum tuberosum	RAA05101.1	D10659	Spinacia oleracea
RAAF73997.2	AF144504	Picea smithiana	RAA05101.1	X71388	Pisum sativum
RAAF73998.2	AF144505	Cathaya argyrophylla	RAA03798.1	D16292	Oryza sativa
RAAF73995.2	AF144502	Pinus armandii	RAA19005.1	U10283	Flaveria bidentis
RAAF73996.2	AF144501	Pinus armandii	RAA19004.1	U10282	Saccharum officinarum
RAAF73996.2	AF144503	Pinus armandii	RAA19004.1	U50150	Flaveria bidentis
RAAF9575.1	X69954	Glycine max	RAA53073.1	X75324	Lycopersicon esculentum
RAAF74019.2	AF144526	Tsuga canadensis	RAAF08537.1	AF191098	Pisum sativum
RAAF74004.2	AF144511	Pseudotsuga sinensis	RAA96460.1	AB029400	Brassica rapa
RAAF74016.2	AF144523	Nothofagus longibracteata	SEQ ID NO. 567		
RAAF74022.2	AF144529	Cedrus atlantica	RAAF60293.1	AF233745	Lycopersicon esculentum
RAAF74018.2	AF144525	Tsuga canadensis	SEQ ID NO. 568		
RAAF74002.2	AF144509	Pseudotsuga sinensis	RAAG28436.1	AF195029	Glycine max
RAAF74001.2	AF144508	Pseudotsuga menziesii	RAAG28435.1	AF195028	Glycine max
RAAF73993.2	AF144500	Pinus benksiana	RAAD6168.1	AF156691	Nicotiana glauca
RAAF73992.1	AF144499	Pinus benksiana	RAAD6168.1	X99972	Brassica oleracea
RAAF73959.1	AJ278455	Juglans nigra			
RAAF74003.2	AF144510	Pseudotsuga sinensis			
RAAF73999.2	AF144506	Pseudotsuga menziesii			
RAAF74007.2	AF144514	Abies firma			

AAA340394.1	M80489	Nicotiana plumbaginifolia	AAA34096.1	M80492	Nicotiana plumbaginifolia
AAF98344.1	AF275745	Lycopersicon esculentum	AAAG01028.1	AF289025	Cucumis sativus
AAAF5599.1	AF179442	Lycopersicon esculentum	SEQ ID NO. 569		
AAA34052.1	M7888	Nicotiana plumbaginifolia	AAAC49186.1	U37088	Simmondsia chinensis
CAA54046.1	M76536	Solanum tuberosum	AAAG28600.1	AF247134	Limnathes douglasii
AAA34098.1	M80490	Nicotiana plumbaginifolia	AAAC28458.1	AF082033	Hemerocallis hybrid cultiv
AAA341998.1	U84891	Mesembryanthemum crystallinum	AAAB72178.1	AF009563	Brassica napus
CAAS2107.1	X73901	Dunaliella bioculata	AAA96054.1	U50771	Brassica napus
BAAG06229.1	D31843	Oryza sativa	CAAT1898.1	Y11007	Brassica juncea
BAAG60276.1	U09989	Zea mays	AF333040		Dunaliella salina
CAC29435.1	AJ310523	Vicia faba	CAKI1266.1	AF333040	Zea mays
AAA34173.1	M60166	Lycopersicon esculentum	CACI17746.1	AJ291728	Brassica napus
CAB69824.1	AJ271439	Prunus persica	CAAC25109.1	AF054497	Brassica napus
RAAD6187.1	AF156683	Nicotiana plumbaginifolia	CAAC25110.1	AF054498	Brassica rapa
AAAB90402.1	U51690	Dunaliella acidophila	CAAC25111.1	AF054499	Brassica rapa
CAAS9799.1	X85804	Phaseolus vulgaris	CAAC25112.1	AF054500	Brassica oleracea
AAAB94202.2	AF029256	Kosteletzkya virginica	SEQ ID NO. 571		
CAAT7275.1	X66737	Nicotiana plumbaginifolia	RAAD1126.1	AF159061	Oryza sativa subsp. indica
AAAB55314.2	S79523	Vicia faba	BAAG92697.1	AF039916	Vicia faba
BAAS37150.1	AE022442	Vicia faba	BAAG92698.1	AF039917	Vicia faba
CAC29436.1	AJ310524	Lilium longiflorum	CACI1129.1	AF039829	Fagus sylvatica
AAAK31799.1	AY029190	Solanum tuberosum	CAAC72838.1	AF097182	Oryza sativa
CAAS4045.1	X76535	Oryza sativa	CAAC72839.1	AF097182	Hevea brasiliensis
BAAO1058.1	D10207	Lycopersicon esculentum	AAA81126.1	Z26041	Helianthus annuus
AAAB17186.1	U72148	Medicago truncatula	AAA91806.1	U49113	Oryza sativa
CAB85495.1	AJ132892	Medicago truncatula	CABD7806.1	Z93771	Nicotiana tabacum
CAB85494.1	AJ132891	Zea mays	CABD8068.1	AF173881	Oryza sativa subsp. indica
CAAS59800.1	X85805	Zostera marina	CAB46506.1	AF007496	Nicotiana tabacum
BAAO8134.1	D45189	Prunus persica	RAAD22116.1	AF134552	Oryza sativa subsp. indica
CAB69823.1	AJ271438	Nicotiana plumbaginifolia	BAAG92699.1	AF039918	Vicia faba
RAAD46186.1	AF156679	Mesembryanthemum crystallinum	CAAC94849.1	X70399	Medicago sativa
RAAD31896.1	AF145478	Oryza sativa	CABD7807.1	Y57439	Brassica napus
FAAS90510.2	AF000111	Lycopersicon esculentum	CAAC7807.1	Y93772	Nicotiana tabacum
RAAD11617.1	AF050495	Lycopersicon esculentum	RAAF6353.1	AF2007333	Catharanthus roseus
RAAD11618.1	AF050496	Lycopersicon esculentum	CAAB13395.1	AF283668	Oryza sativa subsp. indica
RAAD34138.1	M96324	Lycopersicon esculentum	CAAB7288.1	Z26654	Aecetabularia cliftonii
CAB63790.1	X93592	Dunaliella bioculata	CAAB7289.1	Z47076	Malus x domestica
AAAB1348.1	U38965	Vicia faba	CAAB5493.1	AJ002485	Medicago sativa
AAAK32118.1	AF108816	Hordeum vulgare	CAAB2268.1	Z28627	Aecetabularia cliftonii
AAK32119.1	AF108817	Hordeum vulgare	CAAO7470.1	AJ007332	Catharanthus roseus
AAAF97591.1	AF263917	Lycopersicon esculentum			



CAR8254.1	248221	Phaseolus vulgaris	RAF29575.1	AF188062	Lactuca sativa
CAR8856.1	AF156101	Chlamydomonas reinhardtii	AA041765.1	AF111842	Sevea brasiliensis
RA92244.1	AB038648	Vicia faba	AA041765.1	AF111843	Sevea brasiliensis
RAA33545.1	M60215	Zea mays	RAA332209.1	AF082326	Haematoctococcus pluvialis
CAR56766.1	X80788	Medicago sativa subsp. x varia	RAA332208.1	AF082325	Haematoctococcus pluvialis
CAR07803.1	X33768	Nicotiana tabacum	BA053978.1	AB013034	Haematoctococcus pluvialis
CAR03493.1	A0002487	Medicago sativa	CAR70850.1	Y09634	Nicotiana tabacum
CAR07804.1	X33769	Nicotiana tabacum	CAF91499.1	AF227951	Daucus carota
CAR82264.1	Z28632	Acetabularia cliftonii	RAA32601.1	AF082869	Chlamydomonas reinhardtii
CAR07805.1	X33770	Nicotiana tabacum	SEQ ID NO. 573		
CAR45119.1	X63558	Brassica oleracea	BA05079.1	D26086	Petunia x hybrida
CAR05492.1	AJ0002486	Medicago sativa	AA026942.1	AF119050	Datisca glomerata
AA074625.1	U31773	Oryza sativa	AA006243.1	AF053077	Nicotiana tabacum
CAR05494.1	AJ0002488	Medicago sativa	BA050577.1	D26084	Petunia x hybrida
CAR04686.1	X57438	Brassica napus	BA05076.1	D26083	Petunia x hybrida
CAR07386.1	Z47077	Malus x domestica	BA05078.1	D26085	Petunia x hybrida
CAR07387.1	Z47078	Malus x domestica	AAK01713.1	AF332876	Oryza sativa
BA052334.1	AB038787	Vicia faba	AA053260.1	U76554	Brassica rapa
CAC11128.1	AJ298828	Fagus sylvatica	AA053261.1	U76555	Brassica rapa
BA052335.1	AB038788	Vicia faba	BA05070.1	AB035132	Petunia x hybrida
CAC09574.1	AJ298986	Fagus sylvatica	BA021919.1	AB006597	Petunia x hybrida
BA052337.1	AB038790	Vicia faba	BA096071.1	AB035133	Petunia x hybrida
BA052336.1	AB038789	Vicia faba	BA021927.1	AB006605	Petunia x hybrida
BA052338.1	AB038791	Vicia faba	BA019112.1	AB000453	Petunia x hybrida
RA029592.1	AF136285	Medicago sativa subsp. x varia	BA021928.1	AB006606	Petunia x hybrida
SEQ ID NO. 572			BA021929.1	AB006600	Petunia x hybrida
RAF26092	AF236092	Brassica oleracea var. botrytis	BA021922.1	AB006600	Petunia x hybrida
RAF29378.1	AF188065	Oryza sativa	BA019114.1	AB000455	Petunia x hybrida
BA057743.1	U48963	Clarkia breweri	BA021920.1	AB006598	Petunia x hybrida
BA040974.1	AB049816	Nicotiana tabacum	BA019110.1	AB006599	Petunia x hybrida
RAF29973.1	AF188061	Adonis palestina	BA021926.1	AB006604	Petunia x hybrida
RAF29974.1	AF188060	Adonis palestina	BA021925.1	AB006603	Petunia x hybrida
CAR57947.1	X92627	Clarkia breweri	BA019111.1	AB000452	Petunia x hybrida
RAF29976.1	AF188063	Lactuca sativa	BA021923.1	AB006601	Petunia x hybrida
BA040977.1	AB049815	Nicotiana tabacum	BA021924.1	AB006602	Petunia x hybrida
RAF29977.1	AF188064	Tagetes erecta	BA019113.1	AB000454	Petunia x hybrida
AA010423.1	AF251011	Tagetes erecta	BA019926.1	AB000456	Petunia x hybrida
BA04132.1	AF031079	Camptotheca acuminata	SEQ ID NO. 574		
BA04132.1	AF031080	Camptotheca acuminata	AA032146.1	AF051246	Picea mariana
AA067742.1	U48962	Clarkia xantiana			

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AA643823.1	AF212317	Capsicum annuum	AA686661.1	U90214	Nicotiana tabacum
AA640664.1	AF150686	Solanum tuberosum	AA64570.1	AF143442	Lycopersicon esculentum
AA691310.1	AF239687	Rubus idaeus	BA67835.1	AF000815	Oryza sativa
AA607828.1	D43773	Nicotiana glauca	AA631249.1	S73826	Solanum tuberosum
AA639365.1	AF008183	Populus x heterosa	AA631250.2	S73827	Solanum tuberosum
AA641049	AF041049	Populus tremuloides	CA657894.1	X82544	Solanum tuberosum
CA621593.1	X13324	Petroselinum crispum	AA631251.2	S73828	Solanum tuberosum
CA631697.1	X13325	Petroselinum crispum	BA606486.1	D30809	Triticum aestivum
AA637733.1	AF052222	Lolium perenne	AA6224123.1	AF067187	Cichorium intybus
AA637734.1	AF052223	Lolium perenne	BA606487.1	D30810	Triticum aestivum
AB642383.1	U39405	Pinus taeda	BA602303.2	D12919	Triticum aestivum
AB642382.1	U39404	Pinus taeda			
AB642369.1	U12013	Pinus taeda	SEQ ID NO. 580		
AA62668.1	U12012	Pinus taeda	CA641152.1	X94375	Pimpinella brachycarpa
AA60665.1	AF150687	Solanum tuberosum	CA641221.1	X94449	Pimpinella brachycarpa
AA673997.2	AF144504	Picea smithiana	CA64498.1	X35193	Pimpinella brachycarpa
AA673995.2	AF144502	Pinus armandii	CA63222.1	X32489	Glycine max
AA673998.2	AF144505	Cathaya argyrophylla	BA633463.1	AB028075	Physcomitrella patens
AA673996.2	AF144501	Pinus armandii	AA64017.1	U30475	Glycine max
AA673994.2	AF144503	Pinus armandii	BA618169.1	AB042767	Zinnia elegans
CA649575.1	X69954	Glycine max	BA633462.1	AB028074	Physcomitrella patens
AA674016.2	AF144523	Nothofagus longibracteata	BA633464.1	AB028076	Physcomitrella patens
AA674004.2	AF144511	Pseudotsuga sinensis	BA633466.1	AB028077	Physcomitrella patens
AA674022.2	AF144529	Cedrus atlantica	BA633466.1	AB028078	Physcomitrella patens
AA674019.2	AF144526	Tsuga canadensis	BA618171.1	AB042769	Zinnia elegans
AA674018.2	AF144525	Tsuga canadensis	CA64417.1	X94947	Lycopersicon esculentum
AA674001.2	AF144508	Pseudotsuga menziesii	BA633461.1	AB028073	Physcomitrella patens
AA674002.2	AF144509	Pseudotsuga sinensis	BA633468.1	AB028080	Physcomitrella patens
CA697359.1	A0278455	Juglans nigra	BA633467.1	AB028079	Physcomitrella patens
AA674003.2	AF144510	Pseudotsuga sinensis	SEQ ID NO. 581		
AA673993.2	AF144500	Pinus banksiana	CA641162.1	Z54351	Spinacia oleracea
AA673999.2	AF144506	Pseudotsuga menziesii	AA633336.1	AF144684	Chloroplast psim sativum
AA673992.1	AF144499	Pinus banksiana	AA630019.1	AF039304	Chloroplast sea mays
AA674007.2	AF144514	Abies firma	BA696657.1	AF039305	Chloroplast sea mays
AA6464913.1	U23787	Sorghum bicolor	SEQ ID NO. 582		
AA674000.2	AF144507	Pseudotsuga menziesii	AA616526.1	AF191301	Medicago sativa
SEQ ID NO. 578			SEQ ID NO. 583		
AA62305.2	DL2921	Triticum aestivum	BA62986.1	AF001550	Oryza sativa
AA606696.1	AF031487	Nicotiana tabacum			
CA640402.1	X36782	Triticum aestivum			

AAAF19807.1	AF180356	Brassica oleracea	AAAB0919.1	AF020787	Oryza sativa
AAAF19401.1	AF203481	Lycopersicon esculentum	SEQ ID NO. 590		
AAAF19402.1	AF203480	Lycopersicon esculentum	AAAC09422.1	M68929	Mitochondrion Marchantia
BAA056601	D26601	Nicotiana tabacum			
CAA73068.1	Y12465	Sorghum bicolor			
BAA34675.1	AB011670	Triticum aestivum			
BAA13440.1	D87707	Ipomoea batatas	SEQ ID NO. 603		
AAAF3900.1	AF194413	Oryza sativa	AAAD02328.1	AF044573	Brassica oleracea
AAAF3901.2	AF194414	Oryza sativa	AAC49651.1	U68461	Striga asiatica
AAAF17800.1	AF090835	Mesembryanthemum crystallinum	AAC49652.1	U68462	Striga asiatica
CAA73067.1	Y12464	Sorghum bicolor	AAAF04358.1	AF234528	Avena nuda
BAA12715.1	D85039	Zea mays	FAA99214.1	AF032361	Mimosa pudica
CAA49202.1	Z49233	Chlamydomonas eugametos	FAA31886.1	AF039484	Gossypium hirsutum
AAAF1062.1	AF216527	Dunaliella tertiolecta	CAA39280.1	X53603	Solanum tuberosum
AB060693.1	U69174	Glycine max	CAA5149.1	X53603	Nicotiana tabacum
AB07181.1	S82324	Daucus carota	AAAF1265.1	AF246715	Oryza sativa
AAAF2691.1	D84507	Zea mays	CAA33874.1	X15865	Solanum tuberosum
AAAF01179.1	AF289237	Zea mays	CAA39278.1	X5749	Solanum tuberosum
CAA36750.1	X83869	Daucus carota	AAAD1039.1	AF112538	Malva pusilla
BAA12692.1	D84508	Zea mays	AAAG0041.1	AF288226	Setaria italica
CAA37157.1	X81394	Oryza sativa	AAAF03692.1	AF172094	Picea rubens
AAAD23582.1	AF128443	Glycine max	CAA47899.1	X67666	Brassica napus
BAA19553.1	D64036	Oryza sativa	CAA48609.1	AF282624	Helianthus annuus
CAA65244.1	X95997	Solanum tuberosum	AAAF3741.1	AF111812	Pisum sativum
CAA07481.1	AF007366	Zea mays	AAAF2805.1	AF282624	Pisum sativum
AAAG46110.1	AC073166	Medicago sativa	AAAF1543.1	AF143208	Vigna radiata
CAA65500.1	X96723	Oryza sativa	CAA34356.1	X16280	Solanum tuberosum
AAAG69507.1	U28376	Zea mays	CAA55923.1	X79378	Oryza sativa
AAAD28192.2	AF115406	Solanum tuberosum	AAAF1264.1	AF246714	Sorghum bicolor
BAA22410.1	D38452	Zea mays	AAAB38512.1	U91047	Pisum sativum
CAA71142.1	Y10036	Cucumis sativus	AAAB38511.1	U91046	Pisum sativum
AAAG36872.1	AF73987	Nicotiana tabacum	AAAB18641.1	U76191	Pisum sativum
AAAC04324.1	U73336	Oryza sativa	CAA62028.1	X90378	Pisum sativum
BAA02698.1	D13436	Oryza sativa	CAA39279.1	X57550	Solanum tuberosum
BAA03689.1	AB011968	Oryza sativa	AAAC04127.1	AF091809	Anemula phyllitidis
CAA72362.1	Y11649	Zea mays	AAAC16054.1	AF061019	Coleochaete scutata
CAA3659.1	X16387	Nicotiana tabacum	AAAB38514.1	U91049	Pisum sativum
BAAN05649.1	D26602		AAAB18644.1	U76193	Pisum sativum
			AAAC16055.1	AF061020	Mesostigma viride

SEQ ID NO. 584

AAC64128.1	AF091810	Anemia phyllitidis	CRA44820.1	X63106	Nicotiana tabacum
AAC33433.1	J01238	Zea mays	BAA34919.1	AB012716	Salix gilgiana
AAC50272.1	AJ049106	Glycine max	AAE65162.1	AF002667	Solanum commersonii
CAB33873.1	X15864	Oryza sativa	CRA47345.1	X66874	Phaseolus vulgaris
AFR7302.1	AF281323	Magnolia denudata	AAE91473.1	AF035458	Spinacia oleracea
BA09450.1	D50839	Chlamydomonas reinhardtii	AAE96660.1	AF039084	Spinacia oleracea
BA09449.1	D50838	Chlamydomonas reinhardtii	AAE91472.1	AF035457	Spinacia oleracea
AAC16053.1	AF061018	Scheffelia dubia	SEQ ID NO. 607		
AAH33940.1	J01297	Glycine max	AAE05641.1	U41385	Ricinus communis
AAC3728.1	V00450	Glycine max	AAE05640.1	AF131223	Batisca glomerata
AAH3443.1	N33963	Volvox carterii	CRA77575.1	Z11499	Medicago sativa
AAH25911.1	AB013098	Nannochloris bacillaris	CAC21228.1	AJ277377	Triticum turgidum subsp. d
AAH48335.1	AF090969	Selaginella apoda	CAC21230.1	AJ277379	Triticum turgidum subsp. d
AAH48336.1	AF090970	Cosmarium botrytis	AAH19660.1	U11496	Triticum aestivum
AAC64129.1	AF091811	Pellitum nudum	BAB18780.1	AB047268	Cucumis sativus
CAC39276.1	X55746	Solanum tuberosum	CAC21229.1	AJ277378	Triticum turgidum subsp. durum
SEQ ID NO. 606			CAC21231.1	AJ277380	Triticum turgidum subsp. durum
AAB88009.1	AF035414	Brassica napus	BAA92322.1	AB039278	Oryza sativa
AAB88134.1	AF034618	Spinacia oleracea	AAE5566.1	AF110784	Volvox carterii f. nageriensis
CAB47948.1	X67711	Oryza sativa	AAE02069.1	AF036939	Chlamydomonas reinhardtii
CAB72129.1	AJ249330	Cucumis sativus	AAC49896.1	AF027727	Chlamydomonas reinhardtii
CAB72130.1	AJ249331	Cucumis sativus	CRA72092.1	Y11209	Nicotiana tabacum
CAA37971.1	X54030	Lycopersicon esculentum	SEQ ID NO. 608		
AAE34134.1	AF161180	Malus x domestica	AF006489		Gossypium hirsutum
AAB88133.1	AF034617	Spinacia oleracea	AAE72047.1	AF003197	Lupinus albus
AAB88132.1	AF034616	Spinacia oleracea	CRA05979.1	X62123	Solanum tuberosum
AAB97316.1	AF033852	Spinacia oleracea	CRA44050.1	U89839	Lycopersicon esculentum
AB42159.1	L41253	Lycopersicon esculentum	AB49700.1	X57557	Solanum tuberosum
CAB42685.1	X60088	Daucus carota	AAE07182.1	D12637	Oryza sativa
CAB30018.1	X06332	Petunia x hybrida	CAA41812.1	X59086	Zea mays
CAB37171.1	X61491	Spinacia oleracea	CAA40781.1	X57556	Zea mays
AAH99745.1	X54029	Lycopersicon esculentum	CRA33743.1	X15712	Zea mays
CAA57867.1	X99515	Triticum aestivum	CRA33742.1	X15711	Zea mays
CAA4620.1	X62799	Pisum sativum	CAA65119.1	X95863	Triticum turgidum
AAH00730.1	M76725	Glycine max	CRA26600.1	X02842	Zea mays
AAH34139.1	L08830	Chlamydomonas reinhardtii	CAA65120.1	X95864	Triticum turgidum
CAB72128.1	AJ249329	Lycopersicon esculentum	CAA65131.1	X65194	Chlamydomonas reinhardtii
AAH21808.1	L23551	Cucumis sativus	AAA33027.1	M76669	Chlorella kessleri
AAB86942.1	AF031241	Spinacia oleracea	AAE72048.1	AF006490	Gossypium hirsutum

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[illegible]



RAA48835.1	AC084218	Oryza sativa	CRA39936.1	X5599	Daucus carota
RAA10242.1	AF020717	Triticum aestivum	BRA08995.1	AJ010091	Brassica napus
SEQ ID NO. 628			BRA05649.1	D26602	Nicotiana tabacum
RAA90375.1	AF001081	Oryza sativa	RAF19403.1	AF203481	Lycopersicon esculentum
BRA03361.1	AF002486	Oryza sativa	RAC25423.1	AF02908	Nicotiana tabacum
CRA62901.1	X91787	Lupinus luteus	RAF19402.1	AF203480	Lycopersicon esculentum
SEQ ID NO. 629			CRA65244.1	X95997	Solanum tuberosum
RAA96875.1	AB045121	Oryza sativa	CRA57898.1	X82548	Hordeum vulgare
BRA78746.1	AB023482	Oryza sativa	RAF19401.1	AF203479	Glycine max
RAA43550.1	AF211532	Nicotiana tabacum	RAD23582.1	AF128443	Glycine max
BRA90357.1	AF001080	Oryza sativa	RAF34436.1	AF172282	Oryza sativa
BRA77204.1	AB026262	Cicer arietinum	BRA05648.1	D26601	Nicotiana tabacum
RAA90806.1	AF001168	Oryza sativa	SEQ ID NO. 634		
SEQ ID NO. 630			RAF73075.1	AF268595	Hordeum vulgare
RAD06592.1	AF093752	Triticum aestivum	SEQ ID NO. 635		
RAA22095.1	AF308658	Typha latifolia	CBA55467.1	AC250316	Brassica juncea
SEQ ID NO. 632			RAA22441.1	D63954	Zea mays
RAA21901.1	AF109392	Brassica napus	BRA11475.1	D79379	Nicotiana tabacum
SEQ ID NO. 633			AAV00334.1	U25617	Sesamum indicum
CBA82852.1	Z30329	Mesembryanthemum crystallinum	RAA39387.1	U59477	Perilla frutescens
BAB18105.1	AB042715	Chlamydomonas reinhardtii	CRA07638.1	AJ007739	Solanum tuberosum
RAA18104.1	AB042714	Chlamydomonas reinhardtii	RAF27933.1	AF222989	Capsicum annuum
BRA33689.1	AB011968	Oryza sativa	RAA72241.1	U75745	Petroselinum crispum
BRA83688.1	AB011967	Oryza sativa	AAA61776.1	L22965	Chloroplast Glycine soja
CRA73067.1	Y12464	Sorghum bicolor	RAF12821.1	AF200717	Vernicia fordii
RAF22219.1	AF141378	Zea mays	AAA86690.1	U17063	Limnanthes douglasii
RAA96628.1	AF002482	Oryza sativa	RAD13527.1	AF061027	Vernicia fordii
CRA89202.1	Z49233	Chlamydomonas eugametos	RAA22442.1	D84409	Zea mays
CRA73068.1	Y12465	Sorghum bicolor	RAA22440.1	D63953	Zea mays
RAA34675.1	AB011670	Triticum aestivum	RAA07174.1	L22963	Triticum aestivum
RAF06969.1	AF162661	Kalanchoe fedtschenkoi	RAC39867.1	AF047172	Chloroplast Brassica napus
RAF06970.1	AF162662	Kalanchoe fedtschenkoi	CBA45155.1	AJ011004	Vernicia fordii
RAA90814.1	AF001168	Oryza sativa	RAC16443.1	AF020204	Pearl millet
RAA62693.1	AF004947	Oryza sativa	RAA61775.1	L22962	Brassica napus
RAF1062.1	AF216527	Dunaliella tertiolecta	AAA61777.1	L22964	Chloroplast Glycine soja
CRA71142.1	Y10036	Cucumis sativus	AAA22994.1	LQ1418	Brassica napus
			BRA28358.1	D84678	Perilla frutescens
					Triticum aestivum

RAA05515.1	D26509	Nicotiana tabacum	CAA57425.1	X18131	Zea mays
RAA11397.1	D78506	Oryza sativa	CAA72196.1	Y11368	Zea mays
RAA18135.1	A8051215	Glycine max	AGC44132.1	AF218296	Pisum sativum
BAA222439.1	D63952	Zea mays	AGI1492.1	AF214008	Brassica napus
RAA11396.1	D78505	Oryza sativa	AGI14981.1	AF214007	Brassica napus
CAE71341.1	AJ250664	Hordeum vulgare	AAD56282.1	AF155332	Petunia x hybrida
RAA48897.1	AF083613	Dunaliella salina			
RAA80650.1	AF083613	Sesamum indicum			
AF192486	AF192486	Calendula officinalis			
AAAF64256.1	AJ245938	Petroselinum crispum			
RAAAB0696.1	U86072				
SEQ ID NO. 636					
RAA16830.1	U49388	Zea mays	BAE20580.1	AB042267	Zea mays
RAAAB16830.1	U49387	Triticum aestivum	BAE20579.1	AB042261	Zea mays
RAAAB16829.1			BAE20581.1	AB042268	Zea mays
			AAK14395.1	AF339732	Dianthus carophyllus
			BAA85113.1	AB031012	Zea mays
			BAE2873.1	AB024291	Zea mays
			BAA85112.1	AB031011	Zea mays
			BAA75253.1	AB044882	Zea mays
			BAE17300.1	AB042260	Zea mays
			BAE20592.1	AB042269	Zea mays
			BAE41137.1	AB060130	Zea mays
SEQ ID NO. 638					
RAA19701.1	L24438	Thiampi arvense			
RAA332913.1	M32885	Persea americana			
CAAC35318.1	AF039858	Sorghum bicolor			
RAA40323.1	AB037244	Asparagus officinalis			
RAA40324.1	AB037245	Asparagus officinalis			
RAA94589.1	AF022460	Glycine max			
CAAA70575.1	Y09423	Nepeta racemosa			
CAAA70576.1	Y09424	Glycine max			
RAA94588.1	AJ202459	Solanum melongena			
CAAA50312.1	U70981	Glycine max			
RAA94584.1	AF022157	Nicotiana tabacum			
RAA47832.1	AF166332	Capsicum annuum			
RAA27282.1	AF122821	Mentha x piperita			
CAAA33941.1	Z33875	Catharanthus roseus			
CAAB56503.1	AJ238612	Solanum melongena			
CAAA50645.1	U71654	Solanum melongena			
CAAB5635.1	D14590	Mentha x piperita			
RAA44151.1	AF124816	Mentha spicata			
RAA44150.1	AF124815	Mentha x piperita			
RAA44152.1	AF124817	Catharanthus roseus			
CAAC72827.1	AJ295719	Glycine max			
RAA94587.1	AF022458	Lycopersicon esculentum x			
RAA37433.1	AF150881	Brassica napus			
RAA37433.1	AF214009	Brassica napus			
UGI4963.1					
SEQ ID NO. 640					
CAAC3550.1	AF211532	Nicotiana tabacum			
RAA78746.1	AB023482	Oryza sativa			
BAE6875.1	AB045121	Oryza sativa			
RAA90357.1	AP001080	Cicer arietinum			
BAA77204.1	AF026262	Oryza sativa			
BAA90806.1	AP001168	Oryza sativa			
SEQ ID NO. 642					
CAAD3991.1	AF150084	Malus x domestica			
AAD39982.1	AF150085	Brassica rapa			
SEQ ID NO. 644					
CAH47099.1	Z66469	Medicago sativa			
CAH4548.1	L07042	Medicago sativa			
CAAS8761.1	X83880	Nicotiana tabacum			
CAAA50036.1	X70703	Pisum sativum			
BAA47434.1	AB016802	Zea mays			
AFH4420.1	AF247136	Capsicum annuum			
ABH58396.1	U94192	Nicotiana tabacum			
AF65756.1	AF242308	Euphorbia esula			

AA73236.1	AF153061	<i>Pisum sativum</i>	BA840709.1	AB003037	<i>Nicotiana tabacum</i>
AA73721.1	X82270	<i>Medicago sativa</i>	BA840702.1	AB053091	<i>Nicotiana tabacum</i>
CA73323.1	Y12785	<i>Petroselinum crispum</i>	CA55326.1	X78589	<i>Chlamydomonas reinhardtii</i>
BA09060.1	D61377	<i>Nicotiana tabacum</i>	BA19066.1	AP002744	<i>Oryza sativa</i>
ADJ37790.1	AF149424	<i>Ipomoea batatas</i>	BA840710.1	AB003038	<i>Nicotiana tabacum</i>
CA56314.1	X79993	<i>Avena sativa</i>	BA13527.1	AC068924	<i>Oryza sativa</i>
AA51419.1	AF247135	<i>Capitulum annuum</i>	BA178897.1	AF210816	<i>Oryza sativa subsp. japonica</i>
AA28856.1	AF079318	<i>Triticum aestivum</i>	BA840707.1	AB053086	<i>Nicotiana tabacum</i>
AA01710.1	AF332873	<i>Oryza sativa</i>	BA840700.1	AB053089	<i>Nicotiana tabacum</i>
AA60579.1	AF216315	<i>Oryza sativa</i>	BA840704.1	AB053093	<i>Nicotiana tabacum</i>
CA13967.1	AJ250311	<i>Oryza sativa</i>	BA840705.1	AB053094	<i>Nicotiana tabacum</i>
BA174733.1	AB016801	<i>Zea mays</i>	BA840706.1	AB053095	<i>Nicotiana tabacum</i>
BA832406.1	AB055515	<i>Nicotiana tabacum</i>	BA840708.1	AB053097	<i>Nicotiana tabacum</i>
CA58760.1	X83879	<i>Nicotiana tabacum</i>	BA840709.1	AB053092	<i>Nicotiana tabacum</i>
CA57719.1	X82268	<i>Medicago sativa</i>	SEQ ID NO. 647		
CA57188.1	AJ224336	<i>Medicago sativa</i>	BA78764.1	AB023482	<i>Oryza sativa</i>
BA18271.1	AB035141	<i>Chlamydomonas reinhardtii</i>	AAK11674.1	AF339747	<i>Lophopyrum elongatum</i>
CA49592.1	X69971	<i>Nicotiana tabacum</i>	AAK1674.1	AF131222	<i>Lophopyrum elongatum</i>
AA73257.1	AF154329	<i>Pisum sativum</i>	AAK43496.1	AF131222	<i>Brassica napus</i>
CA58466.1	X83440	<i>Petunia x hybrida</i>	AAK16628.1	AY007545	<i>Populus nigra</i>
AA61238.1	AF241166	<i>Oryza sativa</i>	BA94509.1	AB041503	<i>Populus nigra</i>
AA640581.1	AF216317	<i>Oryza sativa</i>	BA94510.1	AB041504	<i>Oryza sativa</i>
AA640580.1	AF216316	<i>Oryza sativa</i>	CA851834.1	OC0069	<i>Brassica napus</i>
CA61889.1	AJ251330	<i>Oryza sativa</i>	AAK21965.1	AY028699	<i>Oryza sativa</i>
AA73902.1	AF194415	<i>Oryza sativa</i>	AAK03090.1	AF073405	<i>Nicotiana tabacum</i>
AA25259.1	AF177392	<i>Oryza sativa</i>	AAK25966.1	AF302082	<i>Lycopersicon esculentum</i>
RA273803.1	AF194416	<i>Medicago sativa</i>	AAK1805.1	U28007	<i>Zea mays</i>
RA28617.1	AF129087	<i>Medicago sativa</i>	AAK09771.1	U67422	<i>Zea mays</i>
CA61750.1	AF275316	<i>Cicer arietinum</i>	AAK27894.1	AF023164	<i>Daucus Carota</i>
AA51717.1	AF174291	<i>Ipomoea batatas</i>	AAK61708.1	U93048	<i>Glycine max</i>
AA57844.1	U96716	<i>Sesquialia lepidophylla</i>	AAK91336.1	AF249317	<i>Glycine max</i>
BA331352.1	AB008187	<i>Pisum sativum</i>	AAK91337.1	AF249318	<i>Oryza sativa</i>
CA76701.1	Y17226	<i>Lycopersicon esculentum</i>	AAK33377.1	AF290411	<i>Oryza sativa</i>
CA66233.1	X97637	<i>Antirrhinum majus</i>	AAK27895.1	AF023165	<i>Zea mays</i>
CA71242.1	Y10160	<i>Chenopodium rubrum</i>	AAK11666.1	AF318490	<i>Lycopersicon hirsutum</i>
SEQ ID NO. 646			AAK97692.1	Z73295	<i>Catharanthus roseus</i>
AA37756.1	L46702	<i>Solanum tuberosum</i>	AAK34428.1	AF172282	<i>Oryza sativa</i>
AA43993.1	U52078	<i>Nicotiana tabacum</i>	AAK76306.1	AF220602	<i>Lycopersicon pimpinellifolium</i>
AA13460.1	AF223412	<i>Zea mays</i>	AAK47423.1	U59315	<i>Lycopersicon pimpinellifolium</i>
BA03437.1	AP002817	<i>Oryza sativa</i>	AAK48914.1	U02271	<i>Lycopersicon pimpinellifolium</i>



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SEQ ID NO.	657
BBAB21153.1	AE
BBA94219.1	AE
AC49181.1	U3
BBA94236.1	AE
BBA94228.1	AE
BBA94224.1	AE
BBA94215.1	AE
AC49182.1	U3

SEQ ID NO.	667
AAAF91323.1	AE
CAC20842.1	AD
AAAB36558.1	U7
AAAF91322.1	AE
AAAF91324.1	AE
AAAC36318.1	AE
AAAF59906.1	AE
AAAF59905.1	AE
BAA83373.1	AE
BAA84787.1	AE

AAF34426.1	AF172282	Oryza sativa	AAE80225.1	U72723	Oryza longistaminata
AAE82755.1	U72725	Oryza longistaminata	AAE49123.1	U37133	Oryza sativa
AAE49123.1	U37133	Oryza sativa	AAE82756.1	U72724	Oryza sativa
AAE80225.1	U72723	Oryza longistaminata	AAE86636.1	AB029327	Nicotiana tabacum
AAE86636.1	AB029327	Nicotiana tabacum	AAE52992.1	U77888	Ipomoea nil
AAE52992.1	U77888	Ipomoea nil	AAE82753.1	U72725	Oryza longistaminata
AAE82753.1	U72724	Oryza sativa	AAE61708.1	U93048	Daucus carota
AAE82756.1	U72726	Oryza longistaminata			
AAE61708.1	U93048	Daucus carota			
			SEQ ID NO. 670		
			CAA711762.1	Y10804	Nicotiana tabacum
			AAA34266.1	X90664	Triticum aestivum
			AAA34268.1	X90663	Triticum aestivum
			AAA34308.1	X55604	Cicer arietinum
			CAC12987.1	AJ299395	Solanum tuberosum
			AAE26440.1	AF357838	Lycopersicon esculentum
			CAA09519.1	AF011418	Picea mariana
			AAE32140.1	AF051239	
			SEQ ID NO. 672		
			AAE61708.1	U93048	Daucus carota
			AAE21965.1	AY028699	Brassica napus
			BAE83373.1	AF000391	Oryza sativa
			AAA33915.1	I27821	Oryza sativa
			BAE84787.1	AF000559	Oryza sativa
			AAE03090.1	AC073405	Oryza sativa
			AAE21872.1	AF078082	Phaseolus vulgaris
			BAE9254.1	AF001551	Oryza sativa
			BAE94510.1	AB041504	Populus nigra
			AAE16528.1	AY007545	Brassica napus
			BAE94509.1	AB041503	Populus nigra
			BAE92953.1	AF001551	Oryza sativa
			BAE82556.1	AB030083	Populus nigra
			AAE23542.1	I203948	Ipomoea trifida
			CAE97692.1	Z73295	Catharanthus roseus
			AAE11674.1	AF339747	Lophopyrum elongatum
			AAE43496.1	AF131222	Lophopyrum elongatum
			CAE51834.1	I02481	Oryza sativa
			AAE93834.1	I02481	Zea mays
			AAE34428.1	AF172282	Oryza sativa
			BAE94516.1	AF001800	Oryza sativa
			CAA67145.1	X98520	Brassica oleracea
			SEQ ID NO. 669		
			AAE36318.1	AF053127	Malus x domestica
			AAE59906.1	AF197947	Glycine max
			AAE59905.1	AF197946	Glycine max
			AAE91323.1	AF244689	Glycine max
			AAE91322.1	AF244688	Glycine max
			AAE91324.1	AF244690	Glycine max
			CAE61510.1	X89226	Oryza sativa
			CAE20842.1	AJ250467	Pinus sylvestris
			BAE84787.1	AF000559	Oryza sativa
			BAE83373.1	AF000391	Oryza sativa
			AAE36558.1	U77888	Ipomoea nil
			AAE34426.1	AF172282	Oryza sativa
			AAE82755.1	U72725	Oryza longistaminata

CA073134.1	Y12531	Brassicaceae	Brassicaceae	CA056314.1	X79993	Avena sativa	Lycopersicon esculentum
CA073133.1	Y12530	Brassicaceae	Brassicaceae	CA05504.1	A27917	Lycopersicon esculentum	Lycopersicon esculentum
CA073132.1	Y12529	Nicotiana tabacum	Nicotiana tabacum	RA001710.1	AF332873	Oryza sativa	Oryza sativa
CA074722.1	U59318	Lycopersicon esculentum	Lycopersicon esculentum	CA040579.1	AF216315	Oryza sativa	Pisum sativum
CA076314.1	AF220603	Lycopersicon esculentum	Lycopersicon esculentum	CA050036.1	X70703	Pisum sativum	Nicotiana tabacum
CA074724.1	U59317	Lycopersicon plumbellifolium	Lycopersicon plumbellifolium	CA03880	AF423208	Euphorbia esula	Nicotiana tabacum
				AF65766.1	AF242308	Euphorbia esula	Nicotiana tabacum
				CA037790.1	AF149424	Ipomoea batatas	Nicotiana tabacum
				CA058760.1	X83879	Nicotiana tabacum	Nicotiana tabacum
				AA058396.1	U94192	Nicotiana tabacum	Nicotiana tabacum
				AA081420.1	AF247136	Capsicum annuum	Capsicum annuum
				BA018271.1	AF035141	Chlamydomonas reinhardtii	Chlamydomonas reinhardtii
				CA037188.1	AJ224336	Medicago sativa	Medicago sativa
				BA009600.1	D61377	Nicotiana tabacum	Nicotiana tabacum
				CA028850.1	AF079318	Triticum aestivum	Triticum aestivum
				CA073323.1	X12785	Petroselinum crispum	Petroselinum crispum
				CA028617.1	AF129087	Medicago sativa	Medicago sativa
				SEQ ID NO. 675			
				AF034134.1	AF161180	Malus x domestica	Malus x domestica
				CA047948.1	X67711	Oryza sativa	Oryza sativa
				CA042605.1	X60088	Daucus carota	Daucus carota
				AA088134.1	AF034618	Spinacia oleracea	Spinacia oleracea
				CA037971.1	X54030	Lycopersicon esculentum	Lycopersicon esculentum
				CA072129.1	AJ249330	Cucumis sativus	Cucumis sativus
				CA072130.1	AJ249331	Cucumis sativus	Cucumis sativus
				AA088133.1	AF034617	Spinacia oleracea	Spinacia oleracea
				AA088132.1	AF034616	Spinacia oleracea	Spinacia oleracea
				AA097316.1	AF033852	Spinacia oleracea	Spinacia oleracea
				CA030018.1	X06932	Petunia x hybrida	Petunia x hybrida
				AA088009.1	AF035414	Brassica napus	Brassica napus
				CA043711.1	X61491	Spinacia oleracea	Spinacia oleracea
				CA037970.1	X54029	Lycopersicon esculentum	Lycopersicon esculentum
				AA089745.1	AF005993	Triticum aestivum	Triticum aestivum
				CA076867.1	X99515	Pisum sativum	Pisum sativum
				CA044620.1	X62799	Glycine max	Glycine max
				AA060073.1	X76725	Chlamydomonas reinhardtii	Chlamydomonas reinhardtii
				CA072128.1	AJ249329	Cucumis sativus	Cucumis sativus
				AA034139.1	X108830	Lycopersicon esculentum	Lycopersicon esculentum
				CA044820.1	X63106	Nicotiana tabacum	Nicotiana tabacum
				BA034919.1	AB012716	Salix glauca	Salix glauca
				SEQ ID NO. 674			
				CA073214.1	Y10674	Brassicaceae	Brassicaceae
				CA06999.1	Y08607	Nicotiana tabacum	Nicotiana tabacum
				CA011862.1	AJ224165	Petunia x hybrida	Petunia x hybrida
				CA011860.1	AJ224163	Nicotiana tabacum	Nicotiana tabacum
				CA005329.1	AJ0020315	Nicotiana tabacum	Nicotiana tabacum
				CA011861.1	AJ224164	Petunia x hybrida	Petunia x hybrida
				CA008364.1	AJ235939	Medicago sativa	Medicago sativa
				CA005328.1	AJ0020314	Nicotiana tabacum	Nicotiana tabacum
				CA005895.1	X83620	Petunia x hybrida	Petunia x hybrida
				CA0058594.1	X83619	Petunia x hybrida	Petunia x hybrida
				CA0054803.1	X77763	Nicotiana tabacum	Nicotiana tabacum
				CA0059621.1	AF059621	Oryza sativa	Oryza sativa
				CA0059214.1	AF0001278	Oryza sativa	Oryza sativa
				CA0059214.1	AF0001278	Oryza sativa	Oryza sativa
				CA0059214.1	AF0001278	Oryza sativa	Oryza sativa
				CA0059214.1	AF0001278	Oryza sativa	Oryza sativa
				CA005921			

AF002667	Solanum comersonii	SEQ ID NO. 676	AF002667	Vicia faba	SEQ ID NO. 677	AF002667	Solanum comersonii	AF002667	Solanum comersonii
AF002668	Phaseolus vulgaris	AF002668	AF002668	Raphanus sativus	AF002668	AF002668	Phaseolus vulgaris	AF002668	Phaseolus vulgaris
AF002669	Spinacia oleracea	AF002669	AF002669	Brassica oleracea	AF002669	AF002669	Spinacia oleracea	AF002669	Spinacia oleracea
AF002670	Spinacia oleracea	AF002670	AF002670	Raphanus sativus	AF002670	AF002670	Spinacia oleracea	AF002670	Spinacia oleracea
AF002671	Spinacia oleracea	AF002671	AF002671	Brassica oleracea	AF002671	AF002671	Spinacia oleracea	AF002671	Spinacia oleracea
AF002672	Spinacia oleracea	AF002672	AF002672	Raphanus sativus	AF002672	AF002672	Spinacia oleracea	AF002672	Spinacia oleracea
AF002673	Spinacia oleracea	AF002673	AF002673	Brassica oleracea	AF002673	AF002673	Spinacia oleracea	AF002673	Spinacia oleracea
AF002674	Spinacia oleracea	AF002674	AF002674	Raphanus sativus	AF002674	AF002674	Spinacia oleracea	AF002674	Spinacia oleracea
AF002675	Spinacia oleracea	AF002675	AF002675	Vitis vinifera	AF002675	AF002675	Spinacia oleracea	AF002675	Spinacia oleracea
AF002676	Spinacia oleracea	AF002676	AF002676	Ze mays	AF002676	AF002676	Spinacia oleracea	AF002676	Spinacia oleracea
AF002677	Spinacia oleracea	AF002677	AF002677	Oryza sativa	AF002677	AF002677	Spinacia oleracea	AF002677	Spinacia oleracea
AF002678	Spinacia oleracea	AF002678	AF002678	Ze mays	AF002678	AF002678	Spinacia oleracea	AF002678	Spinacia oleracea
AF002679	Spinacia oleracea	AF002679	AF002679	Brassica oleracea	AF002679	AF002679	Spinacia oleracea	AF002679	Spinacia oleracea
AF002680	Spinacia oleracea	AF002680	AF002680	Brassica oleracea	AF002680	AF002680	Spinacia oleracea	AF002680	Spinacia oleracea
AF002681	Spinacia oleracea	AF002681	AF002681	Brassica oleracea	AF002681	AF002681	Spinacia oleracea	AF002681	Spinacia oleracea
AF002682	Spinacia oleracea	AF002682	AF002682	Brassica oleracea	AF002682	AF002682	Spinacia oleracea	AF002682	Spinacia oleracea
AF002683	Spinacia oleracea	AF002683	AF002683	Brassica oleracea	AF002683	AF002683	Spinacia oleracea	AF002683	Spinacia oleracea
AF002684	Spinacia oleracea	AF002684	AF002684	Brassica oleracea	AF002684	AF002684	Spinacia oleracea	AF002684	Spinacia oleracea
AF002685	Spinacia oleracea	AF002685	AF002685	Brassica oleracea	AF002685	AF002685	Spinacia oleracea	AF002685	Spinacia oleracea
AF002686	Spinacia oleracea	AF002686	AF002686	Brassica oleracea	AF002686	AF002686	Spinacia oleracea	AF002686	Spinacia oleracea
AF002687	Spinacia oleracea	AF002687	AF002687	Brassica oleracea	AF002687	AF002687	Spinacia oleracea	AF002687	Spinacia oleracea
AF002688	Spinacia oleracea	AF002688	AF002688	Brassica oleracea	AF002688	AF002688	Spinacia oleracea	AF002688	Spinacia oleracea
AF002689	Spinacia oleracea	AF002689	AF002689	Brassica oleracea	AF002689	AF002689	Spinacia oleracea	AF002689	Spinacia oleracea
AF002690	Spinacia oleracea	AF002690	AF002690	Brassica oleracea	AF002690	AF002690	Spinacia oleracea	AF002690	Spinacia oleracea
AF002691	Spinacia oleracea	AF002691	AF002691	Brassica oleracea	AF002691	AF002691	Spinacia oleracea	AF002691	Spinacia oleracea
AF002692	Spinacia oleracea	AF002692	AF002692	Brassica oleracea	AF002692	AF002692	Spinacia oleracea	AF002692	Spinacia oleracea
AF002693	Spinacia oleracea	AF002693	AF002693	Brassica oleracea	AF002693	AF002693	Spinacia oleracea	AF002693	Spinacia oleracea
AF002694	Spinacia oleracea	AF002694	AF002694	Brassica oleracea	AF002694	AF002694	Spinacia oleracea	AF002694	Spinacia oleracea
AF002695	Spinacia oleracea	AF002695	AF002695	Brassica oleracea	AF002695	AF002695	Spinacia oleracea	AF002695	Spinacia oleracea
AF002696	Spinacia oleracea	AF002696	AF002696	Brassica oleracea	AF002696	AF002696	Spinacia oleracea	AF002696	Spinacia oleracea
AF002697	Spinacia oleracea	AF002697	AF002697	Brassica oleracea	AF002697	AF002697	Spinacia oleracea	AF002697	Spinacia oleracea
AF002698	Spinacia oleracea	AF002698	AF002698	Brassica oleracea	AF002698	AF002698	Spinacia oleracea	AF002698	Spinacia oleracea
AF002699	Spinacia oleracea	AF002699	AF002699	Brassica oleracea	AF002699	AF002699	Spinacia oleracea	AF002699	Spinacia oleracea
AF002700	Spinacia oleracea	AF002700	AF002700	Brassica oleracea	AF002700	AF002700	Spinacia oleracea	AF002700	Spinacia oleracea
AF002701	Spinacia oleracea	AF002701	AF002701	Brassica oleracea	AF002701	AF002701	Spinacia oleracea	AF002701	Spinacia oleracea
AF002702									



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CAA39936.1	X56599	Daucus carota	CAA87385.1	247076	Malus x domestica
AAK26164.1	AY027885	Cucumis sativus	CAA07470.1	AJ007332	Catharanthus roseus
AAH88337.1	AF035944	Fraxinus a. ananassa	CAA05491.1	AJ002485	Medicago sativa
AAF21062.1	AF161627	Dunaliella tertiolecta	CAA82263.1	228627	Acetabularia cliftonii
CAA69202.1	Z49233	Chlamydomonas eugametos	CAA56766.1	X80788	Medicago sativa subsp. x
AAK23900.1	AF194413	Oryza sativa	CAAF8856.1	AF156101	Chlamydomonas reinhardtii
AAK23900.2	AF194414	Oryza sativa	CAAF7803.1	293768	Nicotiana tabacum
CAK78558.1	AF030879	Solanum tuberosum	CAAF88254.1	248221	Phaseolus vulgaris
CBK46228.1	Y18055	Arachis hypogaea	AAA33545.1	260215	Zea mays
AKC22116.1	AF031211	Picea mariana	BAK92244.1	AB038648	Vicia faba
CAK36750.1	X83869	Daucus carota	CAAF07804.1	293769	Nicotiana tabacum
BAK12691.1	D84507	Zea mays	CAAF05493.1	AJ002487	Medicago sativa
AAH47181.1	S82324	Zea mays	CAA82264.1	228632	Acetabularia cliftonii
BAK22410.1	D38452	Zea mays	CAA45119.1	X63558	Brassica oleracea
BAK12692.1	D84508	Zea mays	CAAF05492.1	AJ002486	Medicago sativa
AAK01179.1	AF289237	Zea mays	AAA74625.1	U31773	Oryza sativa
AKC24961.1	AF009337	Tradescantia virginiana	CAAF7805.1	293770	Nicotiana tabacum
BAK30814.1	AF001168	Oryza sativa	CAAF05494.1	AJ002488	Medicago sativa
AKC49008.1	U24188	Lilium longiflorum	CAA40686.1	X57438	Brassica napus
AAK19403.1	AF203481	Lycopersicon esculentum	CAAF7386.1	247077	Malus x domestica
			CAAF7387.1	247078	Malus x domestica
SEQ ID NO. 705			BAK92334.1	AB038787	Vicia faba
BAK92697.1	AB039916	Vicia faba	CAC11128.1	AJ298628	Fagus sylvatica
CAK1129.1	AJ298829	Fagus sylvatica	BAK92335.1	AB038788	Vicia faba
AAK09593.1	AF107464	Hevea brasiliensis	CAAF0574.1	AJ298986	Fagus sylvatica
BAK2698.1	AB039917	Vicia faba	BAK92337.1	AB038790	Vicia faba
CAK72838.1	AF037182	Oryza sativa	BAK92336.1	AB038789	Vicia faba
AAK41126.1	AF159061	Oryza sativa subsp. indica	BAK92338.1	AB038791	Vicia faba
AAA31806.1	U49113	Oryza sativa	NAK29592.1	AF196285	Medicago sativa subsp. x varia
CAK81126.1	226041	Helianthus annuus			
CAK7006.1	293771	Nicotiana tabacum	SEQ ID NO. 706		
AAK08068.1	AF173881	Oryza sativa subsp. indica	CAK10104.1	AJ012656	Prunus persica
AAK22116.1	AF134552	Oryza sativa subsp. indica	CAK10103.1	AJ012655	Prunus persica
CAK46506.1	AJ007496	Nicotiana tabacum	CAK10102.1	AJ012654	Prunus persica
CAK07807.1	293772	Nicotiana tabacum	CAK10101.1	AJ012653	Prunus persica
CAK40687.1	X57439	Brassica napus	CAAF4565.1	AJ001161	Hordeum vulgare
CAK49489.1	X70399	Medicago sativa	CAAF57636.1	X82124	Zea mays
BAK2699.1	AB039918	Vicia faba			
CAK07471.1	AJ007333	Catharanthus roseus	SEQ ID NO. 710		
AAK66353.1	AF283668	Oryza sativa subsp. indica	NAK17236.1	AF178976	Zea mays
CAK81395.1	226654	Acetabularia cliftonii	NAK26856.1	AF069952	Enteromorpha intestinalis



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RAA90332.1	AB037393	<i>Ipomoea batatas</i>	SEQ ID NO. 742	AF242372	<i>Ipomoea batatas</i>
CAC119808.1	AJ304877	<i>Humulus lupulus</i>	AAK27968.1	AF089849	<i>Brassica napus</i>
AAH72091.1	AF020709	<i>Vitis vinifera</i>	AAK53012.1	AF089848	<i>Brassica napus</i>
CNA91030.1	267968	<i>Callistephus chinensis</i>	AAK53011.1	AF133839	<i>Sandersonia aurantiaca</i>
RBA90329.1	AB037390	<i>Ipomoea batatas</i>	AD28477.1	U12637	<i>Hemerocallis hybrid cultiv</i>
CBA16038.1	S90857	<i>Petunia x hybrida</i>	RAC35211.1	297023	<i>Hordeum vulgare</i>
CBA10581.1	AJ131813	<i>Catharanthus roseus</i>	CAK09699.1	297021	<i>Hordeum vulgare</i>
CNA32731.1	X14591	<i>Petunia x hybrida</i>	CAK09687.1	297021	<i>Phaseolus vulgaris</i>
RAK15174.1	X14591	<i>Rubus idaeus</i>	CAB17071.1	299952	<i>Phaseolus vulgaris</i>
CNA38456.1	X54644	<i>Glycine max</i>	ADU10337.1	294591	<i>Oryza sativa</i>
CNA66590.1	X56356	<i>Glycine max</i>	CAK56644.1	AB006468	<i>Hordeum vulgare</i>
CNA37309.1	X53958	<i>Glycine max</i>	BAH3472.1	U52970	<i>Phaseolus vulgaris</i>
AAH01004.1	I07647	<i>Glycine max</i>	CAH12118.1	AU224766	<i>Hordeum vulgare</i>
RBA90486.1	AB037680	<i>Ipomoea batatas</i>	AAH85036.1	U19384	<i>Hordeum vulgare</i>
AAH05239.1	U47738	<i>Solanum tuberosum</i>	RAC62396.1	AF050756	<i>Ricinus communis</i>
SEQ ID NO. 740			AAK49455.1	U41902	<i>Pseudotsuga menziesii</i>
CNA62476.1	X90990	<i>Solanum tuberosum</i>	AAH85035.1	U19359	<i>Hordeum vulgare</i>
AAH66637.1	AF143505	<i>Lycopersicon esculentum</i>	CAH84378.1	234895	<i>Vicia sativa</i>
CNA66616.1	X97980	<i>Solanum berthaultii</i>	CAH05894.1	AJ003137	<i>Lycopersicon esculentum</i>
RBA96593.1	AF002481	<i>Oryza sativa</i>	AAH48496.1	AF172856	<i>Lycopersicon esculentum</i>
CNA82993.1	230332	<i>Spinacia oleracea</i>	BAH22545.1	D38533	<i>Ananas comosus</i>
CNA82994.1	230333	<i>Mesembryanthemum crystallinum</i>	BAH22544.1	D38533	<i>Ananas comosus</i>
AAH05304.1	M92989	<i>Pisum sativum</i>	BAH22543.1	D38531	<i>Ananas comosus</i>
CNA82992.1	230331	<i>Mesembryanthemum crystallinum</i>	BAH37233.1	U34747	<i>Phalaenopsis sp. SM9108</i>
CBA82992.1	230329	<i>Mesembryanthemum crystallinum</i>	CAB16317.1	299173	<i>Nicotiana tabacum</i>
RBA03409.1	AF002816	<i>Oryza sativa</i>	CAH08860.1	AJ009829	<i>Ananas comosus</i>
CNA82991.1	230330	<i>Spinacia oleracea</i>	CAH08263.1	AF019147	<i>Ananas comosus</i>
CBA50374.1	X71057	<i>Nicotiana tabacum</i>	BAH08898.1	AB020561	<i>Zea mays</i>
ADH37166.1	AF132743	<i>Oryza sativa</i>	CAH05487.1	AJ009830	<i>Ananas comosus</i>
BAH3689.1	AB011968	<i>Oryza sativa</i>	AAH79915.1	U71735	<i>Ananas comosus</i>
AAH7501.1	AF199021	<i>Chimaphyonas reinhardtii</i>	CAH53377.1	X17549	<i>Piantus caryophyllus</i>
CNA73068.1	Y12465	<i>Sorghum bicolor</i>	CAH53515.1	AU245924	<i>Vicia sativa</i>
AAH34002.1	M67449	<i>Glycine max</i>	CAB17076.1	299954	<i>Solanum tuberosum</i>
AAH19403.1	AF203481	<i>Lycopersicon esculentum</i>			<i>Phaseolus vulgaris</i>
CNA73067.1	Y12464	<i>Sorghum bicolor</i>	SEQ ID NO. 743		
BAH3688.1	AB011967	<i>Oryza sativa</i>	BAH96853.1	AB045113	<i>Enteromorpha compressa</i>
AAH93863.1	AF09682	<i>Lycopersicon esculentum</i>	SEQ ID NO. 746		
AAH05088.1	AF089102	<i>Salvia columbariae</i>	CAH33980.1	X15901	<i>Plastid Oryza sativa</i>
AAH93860.1	U09679	<i>Lycopersicon esculentum</i>			





AA87347.1	M88307	Brassica juncea	BA05523.1	D26574	Daucus carota
AA87432.1	AF295637	Elaeis guineensis	BA037698.1	AF145729	Oryza sativa
AA94697.1	AB041712	Chara corallina	BA093461.1	AB028073	Physcomitrella patens
AA94696.1	AB041711	Chara corallina	BA093467.1	AB028079	Physcomitrella patens
AA96536.1	AB044286	Chara corallina	BA093468.1	AB028080	Physcomitrella patens
AA818355.1	AF064456	Oryza sativa subsp. indica	BA093460.1	AB028072	Physcomitrella patens
AA834237.1	L20691	Vigna radiata	BA037699.1	AF145730	Oryza sativa
CA052602.1	X74490	Zea mays	CA006717.1	AB005820	Craterostigma plantagineum
CA054583.1	X77397	Zea mays	BA093463.1	AB028075	Physcomitrella patens
AA049585.1	U49103	Triticum aestivum	CA054582.2	X96681	Oryza sativa
AA049586.1	U49104	Triticum aestivum	AA019980.1	AF211193	Oryza sativa
AA049587.1	U49105	Triticum aestivum	AA031270.1	AC079690	Oryza sativa
AA049588.1	U48689	Triticum aestivum	CA006728.1	A0005833	Craterostigma plantagineum
AA049589.1	U48693	Triticum aestivum	AA037696.1	AF145727	Oryza sativa
SEQ ID NO. 760			SEQ ID NO. 765		
BA06405.1	D30744	Zea mays	BA092738.1	AF001389	Oryza sativa
CA020908.1	AF131825	Scherffelia dubia	CA027142.1	AF132537	Picea abies
SEQ ID NO. 761			CA023724.1	AB009086	Chlamydomonas sp. N80
CA060277.1	AF002586	Solanum tuberosum	CA010989.1	AF222784	Hordeum vulgare
AA072107.1	Y11220	Solanum tuberosum	SEQ ID NO. 766		
BA092172.1	Y11220	Solanum tuberosum	CA032185.1	X14020	Pisum sativum
BA040658.1	AB049998	Symplocarpus renifolius	AA034114.1	M87839	Nicotiana tabacum
BA092173.1	AB024734	Symplocarpus renifolius	AA034086.1	M87838	Nicotiana tabacum
BA016385.1	AB042429	Triticum aestivum	AA034042.1	M58522	Spinacia oleracea
BA016384.1	AB042428	Triticum aestivum	SEQ ID NO. 767		
BA040657.1	AB049997	Oryza sativa	AA080538.1	U23784	Nicotiana glutinosa
SEQ ID NO. 762			BA096368.1	AB043976	Panax ginseng
AA01764.2	AF184277	Glycine max	AA02953.1	AF237624	Perilla frutescens
BA021017.1	D26578	Daucus carota	CA032133.1	AF031232	Picea mariana
BA01697.1	AF145728	Oryza sativa	CA047044.1	X68413	Chlamydomonas reinhardtii
CA067118.1	Y17306	Lycopersicon esculentum	BA078583.1	AO066500	Chlamydomonas sp. NS-5
AA01765.1	AF184278	Glycine max	SEQ ID NO. 769		
BA050524.1	D26575	Daucus carota	BA023815.1	D67043	Oryza sativa
BA093466.1	AB028078	Physcomitrella patens	CA045022.1	X63428	Panicum miliaceum
BA093465.1	AB028077	Physcomitrella patens	BA040499.1	D25323	Panicum miliaceum
BA093464.1	AB028076	Daucus carota	AA098603.1	L40579	Glycine max
BA050522.1	D26573	Daucus carota	CA045024.1	X63430	Panicum miliaceum



BAA84540.1	AB00791.1	Pisum sativum	BAA09645.1	D63331	Nicotiana tabacum
CRA98178.1	273950	Lotus japonicus	BAA11770.1	D83078	Nicotiana tabacum
BAA06702.1	D31906	Zea mays	BAW7679.1	AB027054	Oryza sativa
CRA67153.1	X98540	Equis sylvatica	SEQ ID NO. 778		
CRA98182.1	273954	Lotus japonicus	CRA62261.1	X90727	Brassica napus
BAA34253.1	L08130	Oryza sativa	RAF80463.1	AF162283	Glycine max
AAH28335.1	S66160	Oryza sativa	RAE67836.1	U40666	Glycine max
AAH97115.1	U58654	Glycine max	RAA44776.1	AF271796	Glycine max
AAH61831.1	L35045	Oryza sativa	AAZ47107.1	AF271071	Chloroplast Glycine max
SEQ ID NO. 775			CRA62265.1	X90731	Brassica napus
CRA47962.1	X67733	Zea mays	CRA62264.1	X90730	Brassica napus
RAF34428.1	AF172282	Oryza sativa	CRA62266.1	X90732	Brassica napus
BAA94517.1	AF001800	Oryza sativa	CRA62263.1	X90729	Brassica napus
BAA94516.1	AF001800	Oryza sativa	CRA62262.1	X90728	Brassica napus
AAA33915.1	L27821	Oryza sativa	SEQ ID NO. 779		
BAA94529.2	AF001800	Oryza sativa	CRA47056.1	X66428	Hordeum vulgare
BAA92954.1	AF001551	Oryza sativa	RAC26197.1	AF052429	Zea mays
BAA92953.1	AF001551	Oryza sativa	RAK06774.1	AF323725	Chlamydomonas reinhardtii
AAC27489.1	AF077130	Oryza sativa	RAA55563.1	AF110781	Volvox carteri f. nagariensis
AAC02535.1	AF044260	Oryza sativa	SEQ ID NO. 781		
RAF78021.1	AF238477	Oryza sativa	BAW5232.1	AB018526	Vigna radiata
AAH46916.1	AF164020	Oryza sativa	BAW5232.1	AB018526	Ipomoea nil
RAF68398.1	AF237568	Oryza sativa	SEQ ID NO. 783		
AAH46420.1	AF100771	Hordeum vulgare	RAH11482.1	U51192	Glycine max
RAC49629.1	U51330	Triticum aestivum	RAH11481.1	U51191	Glycine max
RAC01746.1	AF044489	Oryza sativa	RAA65636.1	L13653	Lycopersicon esculentum
RAF39437.1	AF044489	Oryza sativa	RAA65637.1	L13654	Lycopersicon esculentum
RAF78013.1	AF238475	Oryza sativa	RAA65637.2	X16776	Spinacia oleracea
AAH78044.1	AF238475	Oryza sativa	RAA03644.1	D14997	Oryza sativa
AAH78018.1	AF238474	Oryza sativa	RAA03644.1	X22920	Spirodela polyrrhiza
AAH46917.1	AF164021	Oryza sativa	CRA80502.1	D42065	Nicotiana tabacum
RAF78016.1	AF238472	Oryza sativa	RAA07664.1	D42065	Nicotiana tabacum
RAH44031.1	AF085166	Hordeum vulgare	RAA07663.1	D42064	Nicotiana tabacum
RAK21965.1	AF028699	Brassica napus	RAF63024.1	AF244921	Spinacia oleracea
RAH43962.1	U78762	Triticum aestivum	BAW77387.1	AF024437	Scutellaria baicalensis
SEQ ID NO. 776			RAA32676.1	M37637	Arachis hypogaea
RAH95118.1	U71244	Brassica rapa	CAC21393.1	AJ401276	Zea mays
SEQ ID NO. 777			CRA64413.1	X94943	Lycopersicon esculentum

AD111483.1	U51193	Glycine max	AB83784.1	U72154	Brassica nigra
AD111484.1	U51194	Glycine max	AA03675.1	AF149311	Rauwolfia serpentina
AB67737.1	I77080	Stylosanthes humilis	HA11831.1	D83177	Croton speciosus
CA62226.1	X90693	Medicago sativa	AA94650.1	AF221526	Prunus serotina
AD37429.2	AF149279	Phaseolus vulgaris	AA91166.1	U92228	Prunus avium
BA82307.1	AB027753	Nicotiana tabacum	CA64442.1	X94986	Manihot esculenta
AD37375.1	AF145349	Glycine max	BA822162.1	S55175	Manihot esculenta
CB94692.1	AJ242742	Ipomoea batatas	AA04007.1	AF163097	Dalbergia cochinchinensis
AD37427.1	AF149277	Phaseolus vulgaris	AA02800.1	AF112888	Catharanthus roseus
BA037430.1	AF149280	Phaseolus vulgaris	BA078708.1	AB003089	Polypodium tinctorum
BA02500.1	AF001383	Oryza sativa	AA025897.1	AF170087	Cucurbita pepo
CA071492.1	Y10466	Spinacia oleracea	AA025897.1	AF072736	Pinus contorta
CB67121.1	Y19023	Lycopersicon esculentum	AA071381.1	U95298	Manihot esculenta
CA050597.1	X71593	Lycopersicon esculentum	AA009850.1	U44087	Zea mays
AB97734.1	AF014502	Glycine max	CA052293.1	X74217	Zea mays
CA071494.1	Y10468	Spinacia oleracea	AA010503.1	U33816	Zea mays
CA021391.1	AJ401274	Zea mays	AA065946.1	U25157	Zea mays
AB41811.1	L36157	Medicago sativa	AB03266.1	U44773	Zea mays
AB98519.1	AF007211	Glycine max	CA040057.1	X56733	Trifolium repens
BA063027.1	AF244924	Spinacia oleracea	AA020839.1	AF082891	Avena sativa
CA062615.1	X91232	Medicago sativa	CA040058.1	X56734	Trifolium repens
CA062227.1	X90694	Medicago sativa	CA049177.1	U33817	Sorghum bicolor
BA04962.1	AB042103	Asparagus officinalis	CA055196.1	X78433	Avena sativa
CA066037.1	X97351	Populus balsamifera subsp. trichocarpa	AA000614.1	AF253849	Secale cereale
BA01950.1	D11337	Vigna angularis	AA07429.1	AF321287	Musa acuminata
CA062597.1	X91172	Raphanus sativus	AA087339.1	L41869	Hordeum vulgare
AA049820.1	AF014469	Oryza sativa	CA09989.2	Z21977	Brassica napus
BA090365.1	AF001081	Oryza sativa	CA080209.1	AF005950	Cicer arietinum
AA065464.2	AF247700	Oryza sativa	AA084906.1	U28047	Oryza sativa
BA089584.1	AF001073	Oryza sativa	BA013232.1	786	Zea mays
CA099881.1	AJ011939	Trifolium repens	BA012338.1	D87042	Zea mays
AD25300.1	784	Lycopersicon esculentum	BA049984.1	D84408	Cucurbita pepo
AD25300.1	AF088276	Oryza sativa	CA070706.1	U90262	Zea mays
CA063704.1	X93301	Lycopersicon esculentum	BA070706.1	U82087	Tortula ruralis
AD24966.1	AF109150	Potamogeton crispus	CA080692.1	U69173	Glycine max
AD25225.1	AF088279	Brassica napus	CA049405.1	U08140	Vigna radiata
AD25225.1	AF088279	Brassica napus	BA01749.1	AB017515	Marchantia polymorpha
AD25225.1	AF088279	Brassica napus	BA01751.1	AB017515	Marchantia polymorpha
AD25225.1	AF088279	Brassica napus	BA01750.1	AB017516	Marchantia polymorpha

BRAB1748.1	AB017515	Marchantia polymorpha	AAF33823.1	AF223351	Nicotiana tabacum
AAA33443.1	L15390	Zea mays	CNA75546.1	X15253	Pisum sativum
CAA57156.1	L15393	Oryza sativa	CNA83893.1	X94183	Solanum tuberosum
BAAB5396.1	AF000615	Oryza sativa	BAAB3258.1	U41474	Glycine max
NAC05270.1	AF048691	Oryza sativa	AAAT7444.1	U25027	Glycine max
BAAB1682.1	T27484	Zea mays	CNA65127.1	X95877	Nicotiana rustica
NAC25423.1	AF072908	Nicotiana tabacum	CNA72681.1	Y11931	Nicotiana rustica
AGA46110.1	AC073166	Oryza sativa	CNA63777.1	X93564	Solanum tuberosum
BAAB2069.1	DL3436	Oryza sativa	BAAB26119.1	AF108123	Brassica napus
BAAB13440.1	D87707	Ipomoea batatas	BAAB03259.1	U41475	Glycine max
BAAB0693.1	U69174	Glycine max	BAAB03257.1	U41473	Glycine max
BAAB17800.1	AF030835	Mesembryanthemum crystallinum	BAAB1107.1	U85250	Vigna unguiculata
CNA65500.1	X36723	Medicago sativa	CAC13988.1	A3291467	Digitaria sanguinalis
CAAB37157.1	X81594	Oryza sativa	AAK01711.1	AF332874	Oryza sativa
CAAB3936.1	X36599	Daucus carota			
BAAB12715.1	D85039	Zea mays	SEQ ID NO. 788		
BAAB69507.1	U28376	Zea mays	AAAF4428.1	AF172282	Oryza sativa
AAAD28192.2	AF115406	Solanum tuberosum	BAAB94516.1	AF001800	Oryza sativa
AAAB26164.1	AY027885	Cucumis sativus	BAAB94517.1	AF001800	Oryza sativa
AAAF21062.1	AF216527	Dunaliella tertiolecta	AAAC23542.1	U20948	Ipomoea trifida
BAAB88537.1	AF035944	Fragaria x ananassa	BAAB4529.2	AF001800	Oryza sativa
CNA859202.1	Z49233	Chlamydomonas eugametos	AAA33915.1	L27821	Oryza sativa
AAAF23900.1	AF194413	Oryza sativa	CAAT73133.1	Y12530	Brassica oleracea
AAAF23901.2	AF194414	Oryza sativa	CAAB67145.1	X98520	Brassica oleracea
AAAC78558.1	AF030879	Solanum tuberosum	BAAB33008.1	AF0000970	Brassica rapa
AAAC32116.1	AF051211	Picea mariana	BAAB33008.1	M97667	Brassica napus
CNA846228.1	Y18055	Arachis hypogaea	CAB89179.1	A245479	Brassica oleracea
CNA85750.1	X38869	Daucus carota	BAAB92836.1	AB032473	Brassica oleracea
BAAB47181.1	S82324	Zea mays	BAAB07576.1	D38563	Brassica rapa
BAAB12691.1	D84507	Zea mays	BAAB92837.1	AB032474	Brassica oleracea
BAAB22410.1	D38452	Zea mays	BAAB07577.2	D38564	Brassica rapa
BAAB12692.1	D84508	Zea mays	BAAB33000.1	AF001551	Brassica rapa
BAAB01179.1	AF239237	Zea mays	BAAB92954.1	AF001551	Oryza sativa
NAC24061.1	AF009337	Tradescantia virginiana	BAAB06285.1	D30049	Brassica rapa
BAAB08164.1	AF001168	Oryza sativa	BAAB21132.1	D88193	Brassica rapa
NAC45008.1	U24168	Lilium longiflorum	AAAB22322.1	U00445	Brassica napus
AAAF21450.1	U38446	Nicotiana tabacum	CNA47962.1	X67733	Zea mays
			CAAB79955.1	Z18921	Brassica oleracea
			BAAB21001.1	AB054061	Brassica rapa
			CAB41879.1	Y18260	Brassica oleracea
			BAAB46420.1	AF100771	Hordeum vulgare
SEQ ID NO. 787					
AAAC63954.1	X94289	Solanum tuberosum			
AAF33824.1	AF223573	Nicotiana tabacum			



AAAF3998.2	AF144505	Cathava argyrophylla	CAAO9419.1	AJ010942	Lycopersicon esculentum
AAAD0665.1	AF150687	Solanum tuberosum	CAB60679.1	28329	Picea abies
AAAF3996.2	AF144503	Pinus armandii	BAB19862.1	A3052883	Oryza sativa
CBA49575.1	X69954	Glycine max	BAB85398.1	AF000615	Oryza sativa
AAAF4004.2	AF144511	Pseudotsuga sinensis	BAB50594.1	AF173655	Beta vulgaris
AAAF74016.2	AF144523	Neototsuga longibracteata	CBA52688.1	AJ133223	Lycopersicon esculentum
AAAF74001.2	AF144508	Pseudotsuga menziesii	CBA52690.1	AJ132225	Lycopersicon esculentum
AAAF74002.2	AF144509	Pseudotsuga sinensis	SEQ ID NO. 796		
AAAF74019.2	AF144526	Tuga canadensis	CA58894.1	X84208	Sinapis alba
AAAF74018.2	AF144525	Tuga canadensis	CBA76116.1	Y16190	Sinapis alba
AAAF74003.2	AF144510	Pseudotsuga sinensis	SEQ ID NO. 799		
AAAF73999.2	AF144506	Pseudotsuga menziesii	AA561708.1	U93048	Daucus carota
AAAF74022.2	AF144529	Cedrus atlantica	AA52992.1	U77888	Ipomoea nil
AAAF73993.2	AF144500	Pinus banksiana	BAA84787.1	AF000559	Oryza sativa
AAAF73992.1	AF144499	Pinus banksiana	CAC20842.1	AJ250467	Pinus sylvestris
AAAF74007.2	AF144514	Abies firma	AAK36558.1	U77888	Ipomoea nil
AAAG4913.1	U23787	Sorghum bicolor	AAK21965.1	AF028699	Brassica napus
CBA97359.1	AJ278455	Juglans nigra	CAAG1510.1	X89226	Oryza sativa
AAAF74000.2	AF144507	Pseudotsuga menziesii	AA559906.1	AF197947	Glycine max
SEQ ID NO. 791			AA559905.1	AF197946	Glycine max
AAAB09756.1	U31097	Glycine max	AAAG3090.1	AF073405	Oryza sativa
SEQ ID NO. 795			AAAG3090.1	AF073405	Malus x domestica
AAAG43998.1	AF215837	Apium graveolens var. dulce	AAAG3915.1	L27821	Oryza sativa
CBA47324.1	X66856	Nicotiana tabacum	AAAG00510.1	AF285172	Phaseolus vulgaris
BAB06594.1	U38651	Medicago truncatula	AAAF34426.1	AF172282	Oryza sativa
BAB39864.1	AB052885	Oryza sativa	AAAF21877.1	AF078082	Phaseolus vulgaris
CAAS3192.1	X75440	Chlorella kessleri	AAAG52994.1	U77888	Ipomoea nil
AAAF74565.1	AF215851	Spinachia oleracea	BAA92954.1	AF001351	Oryza sativa
CAAG6813.1	Y07520	Chlorella kessleri	AAAG1628.1	AF007545	Brassica napus
CBA04511.1	AJ001061	Vitis vinifera	BAA94509.1	AB041503	Populus nigra
CAAF07812.1	Z93775	Vicia faba	BAA94510.1	AB041504	Populus nigra
CAAF39036.1	X55349	Chlorella kessleri	BAA94510.1	AB041504	Populus nigra
AAAF74567.1	AF215853	Solanum tuberosum	AAAF34428.1	AF172282	Oryza sativa
AAAF74566.1	AF215852	Nicotiana tabacum	BAA94529.2	AF001800	Oryza sativa
AAAF74568.1	AF215854	Zea mays	AAAB82755.1	U72725	Oryza longistaminata
AAAF79761.1	L08196	Ricinus communis	AAAB93834.1	U82481	Zea mays
BAB19863.1	AB052884	Oryza sativa	SEQ ID NO. 800		
CBA52689.1	AJ132224	Lycopersicon esculentum	CAB38030.1	AJ010201	Glycine max
CBA70777.1	Y09590	Vitis vinifera			



AAC19381.1	AF068844	Prunus persica	BAA20365.1	AB004307	Nicotiana tabacum
SEQ ID NO. 801		Glycine max	BAA07479.1	D38445	Oryza sativa
AAC19380.1	AJ010201	Prunus persica	BAA02248.1	D12815	Oryza sativa
AAC19381.1	AF068844		BAA04232.1	D17410	Oryza sativa
SEQ ID NO. 802		Solanum tuberosum	BAA90642.1	AF001129	Oryza sativa
CAT70968.1	Y09825	Nepenthes alata	BAA85425.1	AF000616	Oryza sativa
RA016013.1	AF080542	Ricinus communis	BAA04616.1	D17790	Oryza sativa
CAT70563.1	AJ007574	Ricinus communis	BAA40034.1	U10418	Zea mays
CA010608.1	AJ132228	Ricinus communis	CAG67796.1	X99419	Pisum sativum
CAT70778.1	Y09591	Vicia faba	RAK09367.1	AF321525	Pisum sativum
CAT70969.1	Y09826	Solanum tuberosum	RAK09370.1	AF321528	Pisum sativum
RA016014.1	AF080543	Nepenthes alata	RAK09369.1	AF321527	Pisum sativum
CAT72006.1	Y11121	Ricinus communis	RAK09368.1	AF321526	Pisum sativum
RA016015.1	AF080544	Nepenthes alata	SEQ ID NO. 804		Nicotiana tabacum
RA015944.1	AF061434	Vicia faba	BA082107.1	AB022693	Empinella brachycarpa
CA022992.1	Z68759	Ricinus communis	CA031956.1	AF080595	Petroselinum crispum
RA015945.1	AF061435	Vicia faba	CA049527.1	U48831	Petroselinum crispum
RA015946.1	AF061436	Vicia faba	RA055974.1	AF121353	Petroselinum crispum
RA015947.1	AF061437	Nicotiana sylvestris	RA077383.1	AB020590	Nicotiana tabacum
RA015948.1	U64823	Nicotiana sylvestris	CA088326.1	Z48429	Avena fatua
RA015949.1	U64823	Nicotiana sylvestris	BA086031.1	AB026890	Nicotiana tabacum
RA015950.1	U64823	Nicotiana sylvestris	RA016139.1	AF096299	Nicotiana tabacum
RA015951.1	U64823	Oryza sativa	CA037515.1	L44134	Cucumis sativus
RA015952.1	U64823	Chlorella protothecoides	RA023898.1	AF193802	Oryza sativa
RA015953.1	U64823		CA049529.1	U58540	Petroselinum crispum
SEQ ID NO. 803		Helianthus tuberosus	RA016138.1	AF096298	Nicotiana tabacum
CA081210.1	Z26251	Helianthus tuberosus	CA049528.1	U56834	Petroselinum crispum
RA020721.1	U58629	Picea abies	BA016432.1	AB041520	Nicotiana tabacum
CA027143.1	AJ132538	Chlamydomonas reinhardtii	RA077358.1	AB020023	Nicotiana tabacum
AA079131.1	U10545	Chlamydomonas reinhardtii	CA088331.1	Z48431	Avena fatua
CA05406.1	X78851	Volvox carterii	CA035658.1	AF204925	Petroselinum crispum
RA040978.1	U22328	Mesembryanthemum crystallinum	RA027591.1	AF121354	Petroselinum crispum
CA03029.1	X25528	Pisum sativum	CA035659.1	AF204926	Petroselinum crispum
CA030978.1	X12446	Oryza sativa	CA066338.1	AJ279697	Betula pendula
RA013417.1	D87547	Vicia faba	RA016064.1	AF193771	Nicotiana tabacum
RA01758.1	U4956	Spinacia oleracea	RA016063.1	AF193770	Nicotiana tabacum
RA034029.1	M66349	Capiscum annuum	SEQ ID NO. 806		Lycopersicon esculentum
CA071293.1	AJ250378	Nicotiana tabacum	CA052689.1	AJ013224	Lycopersicon esculentum
CA074359.1	Y14032	Zea mays	CA049419.1	AJ010942	
RA088236.1	AB035644				
RA088237.1	AB035645				





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AAD51109.1	AF176040	Mesembryanthemum crystallinum	CA04942.1	AU001706	Pinus sylvestris
RAF73016.1	AF262934	Avicennia marina	CA06030.1	X703783	Marsilea quadrifolia
RAA42941.1	AF091621	Catharanthus roseus	CA05116.1	J78307	Cratogeomys plantagineum
RB040310.1	AB026055	Nicotiana tabacum	RA033352.1	I26924	Ginkgo biloba
RA034310.1	M62720	Triticum aestivum	CA039974.1	AT133422	Nicotiana tabacum
RB040311.1	AB026056	Nicotiana tabacum	CA042201.1	X60343	Nicotiana glauca
RA02168.1	U15971	Oryza sativa	RA087880.1	U49558	Zea mays
CA058111.1	X82938	Lycopersicon esculentum	RA087578.1	U49555	Zea mays
RA086089.1	U17250	Brassica oleracea	CA031676.1	J73151	Pinus sylvestris
RA023847.1	AF004247	Lycopersicon esculentum	CA033779.1	I07501	Pinus sylvestris
BA090392.1	AF001081	Oryza sativa	RA059010.1	I96623	Selaginella lepidophylla
RAF22280.1	AF155280	Mesembryanthemum crystallinum	CA042902.1	I06034	Petelinella crispum
AC012662.1	AF032468	Zea mays	CA042905.1	X60347	Magnolia liliiflora
CA005772.1	AF002959	Zea mays	CA051071.1	J72381	Physcomitrella patens
RA063513.1	AF008910	Prunus armeniaca	RA082047.1	I31676	Oryza sativa
RAA21006.1	D17786	Oryza sativa	CA033033.1	J05223	Mesembryanthemum crystallinum
CAA10494.1	AT131733	Pseudotsuga menziesii	CA033031.1	M29956	Mesembryanthemum crystallinum
SEQ ID NO. 821			CA051675.1	X73150	Pisum sativum
RAF04624.1	AF098672	Brassica oleracea	CA033667.1	I07500	Pisum sativum
RA088615.1	AF034944	Zea mays	CA042903.1	X60345	Ranunculus acris
RA067556.1	AF094774	Oryza sativa	CA034077.1	M14419	Nicotiana tabacum
RA061599.1	AF091857	Pimpinella brachycarpa	CA034442.1	U02886	Atriplex nummularia
SEQ ID NO. 822			CA042904.1	X60346	Petunia x hybrida
CA065313.1	AF251365	Nicotiana glauca	CA042103.1	X59517	Atriplex nummularia
SEQ ID NO. 823			CA053269.1	X75597	Atriplex nummularia
CA07020.1	A006414	Lycopersicon esculentum	RA089207.1	I26922	Taxus baccata
RA02231.1	AF043108	Pisum sativum	RA087579.1	U49556	Zea mays
CA061629.1	AJ251298	Oryza sativa	CA087580.1	U49557	Zea mays
BA029033.1	AB015599	Coffea arabica	RA077758.1	I37005	Solanum tuberosum
RA024535.1	AB006692	Nicotiana glauca	CA054003.1	I97257	Lycopersicon esculentum
AA022322.1	AF043109	Pisum sativum	CA032956.1	X56650	Hordeum vulgare
SEQ ID NO. 826			RA051592.1	I93208	Lycopersicon esculentum
RA057845.1	U96718	Selaginella lepidophylla	CA034466.1	LI3432	Zea mays
SEQ ID NO. 827			RA064241.1	AF251217	Triticum aestivum
RA010215.1	I32560	Chloroplast Pinus sylvestris	CA034465.1	LI3431	Zea mays
RA010214.1	I32561	Chloroplast Pinus sylvestris	CA034076.1	M14418	Nicotiana tabacum
			RA084543.1	M55147	Chloroplast Pisum sativum
			BA085402.1	AF000615	Oryza sativa
			RA086855.1	I27668	Chloroplast Chlamydomonas
			reinhardtii		
			CA033455.1	X15408	Zea mays



[illegible]





AAB37746.1	U30382	Cucumis sativus	SEQ ID NO. 846	AF135014	Zea mays
RAD47901.1	AF085330	Pinus taeda	RAA64691.1	AF135014	Oryza sativa
RAD47901.1	AF085330	Triphysaria versicolor	RAA90623.1	AF001129	Zea mays
RAG13983.1	AF297522	Pinus ayum	BAW22202.1	U16254	Lithospermum erythrorhizon
RAG13983.1	AF297522	Gossypium hirsutum	BAW77024.1	AB026124	
RAG13983.1	U64893	Pinus taeda			
RAC36081.1	AF049354	Nicotiana tabacum	SEQ ID NO. 848		
RAB40634.1	U64890	Pinus taeda	CAC24691.1	AU132363	Brassica juncea
RAB40635.1	U64891	Pinus taeda	RAG17172.1	AF190861	Populus tremula x Populus
RAB40636.1	U64892	Pinus taeda	tremuloides		
RAC44201.1	AF096776	Lycopersicon esculentum	RAC39514.1	AF056027	Oryza sativa
CBA43197.1	AU239068	Lycopersicon esculentum			
RAB1662.1	U85246	Oryza sativa	SEQ ID NO. 849		
RAD49956.1	AF167360	Rumex palustris	RAG22044.1	AF305783	Pisum sativum
RAC96080.1	AF049353	Nicotiana tabacum	RAF00610.1	AF156781	Dolichos biflorus
RAF17570.1	AF202119	Marsilea quadrifolia	RAG32959.1	AF207687	Glycine soja
RAF35902.1	AF230333	Zinnia elegans	RAG32960.1	AF207688	Glycine soja
RAG32921.1	AF184233	Lycopersicon esculentum	RAF00609.1	AF156780	Lotus japonicus
RAB38074.1	U30477	Oryza sativa	RAF031285.1	AF139807	Dolichos biflorus
RAF32411.1	AF230278	Triphysaria versicolor	RAF00611.1	AF156782	Medicago sativa
RAF17571.1	AF202120	Regnellidium diphyllum	RAB18896.1	AB038669	Pisum sativum
RAF247163	Oryza sativa		RAB18895.1	AB038668	Pisum sativum
CAC19183.1	AJ291816	Cicer arietinum	RAB18894.1	AB038555	Pisum sativum
RAD13633.1	AF059489	Lycopersicon esculentum	RAB18893.1	AB038554	Pisum sativum
RAF2180.1	AF247162	Oryza sativa	RAB18900.1	AB027614	Pisum sativum
RAB32732.1	AB049406	Eustoma grandiflorum	RAB40230.1	AB027613	Pisum sativum
CAC06433.1	AJ276007	Festuca pratensis	RAB18890.1	AB023621	Pisum sativum
RAG01875.1	AF291659	Striga asiatica	RAB18897.1	AB023619	Pisum sativum
RAC36077.1	AF049350	Nicotiana tabacum	RAB40231.1	AB027615	Pisum sativum
RAC36079.1	AF049352	Nicotiana tabacum	RAB40230.1	AB027615	Solanum tuberosum
CAB65694.1	AU270960	Lycopersicon esculentum	AB02720.1	US8597	Pisum sativum
RAG32920.1	AF184232	Lycopersicon esculentum	RAB18891.1	AB030444	Pisum sativum
RAC96078.1	AF049351	Nicotiana tabacum	RAB18892.1	AB030445	
RAG01873.1	AF291657	Striga asiatica			
SEQ ID NO. 844			SEQ ID NO. 857		
RAD19957.1	AF109156	Datisca glomerata	RAG43988.1	AF215823	Zea mays
RAD19957.1	AF109156	Datisca glomerata	RAB19052.1	AB044537	Oryza sativa
SEQ ID NO. 845			RAF73828.1	AF162665	Oryza sativa
RAD19957.1	AF109156	Datisca glomerata	RAF69793.1	AB030939	Oryza sativa
			RAF96794.1	AB037421	Oryza sativa
			RAF34025.1	N31480	Spinacia oleracea

ABA11696.1	U69142	Spinacia oleracea	CAC21393.1	AJ401276	Zea mays
BAJ18544.1	AB043540	Vicentia marina	AAE65636.1	L13653	Lycopersicon esculentum
CBA71003.1	Y09876	Nicotiana tabacum	CAB67121.1	L19023	Lycopersicon esculentum
CBA11377.1	X58463	Beta vulgaris	CAG62227.1	X90694	Medicago sativa
CBA9428.1	X6970	Chenopodium holoseriale	CBA50587.1	X11593	Lycopersicon esculentum
ABF70010.1	AF017150	Amaranthus hypochondriacus	BAF7376.1	AF145350	Glycine max
CBA1376.1	X58462	Beta vulgaris	CAB67737.1	L77080	Stylosanthes humilis
ABF58165.1	AF000132	Amaranthus hypochondriacus	CBA71489.1	L10463	Spinacia oleracea
BAF1098.1	AB001348	Oryza sativa	CBA71496.1	X10470	Spinacia oleracea
BAF18543.1	AB043539	Vicentia marina	CBA71494.1	X10468	Spinacia oleracea
CAC03055.1	AF045770	Oryza sativa	BAA60334.1	D30652	Populus kitakamiensis
CBA33076.1	X75327	Pisum sativum	CBA66034.1	X97348	Populus balsamifera subsp.
BAA05466.1	D26448	Hordeum vulgare	trichocarpa		
BAF08296.1	AF196292	Apium graveolens	BAA94962.1	AB042103	Asparagus officinalis
ABA47571.1	U87848	Nicotiana glauca	CBA80502.1	D22920	Spirodela polyrrhiza
AGA43027.1	AF323586	Oryza sativa	CBA66035.1	X97349	Populus balsamifera subsp.
BAF33843.1	S77096	Brassica napus	trichocarpa		
Zea mays			BAA1852.1	D83224	Populus nigra
CBA33075.1	X75326		CBA66036.1	X97350	Populus balsamifera subsp.
SEQ ID NO. 858			trichocarpa		
ABA1812.1	L36158	Medicago sativa	BAA07241.1	D38051	Populus kitakamiensis
CBA71495.1	X10469	Spinacia oleracea	BAD11481.1	U51191	Glycine max
CBA09881.1	AJ011939	Trifolium repens	BAC98519.1	AF007211	Hordeum vulgare
CBA62228.1	X90695	Medicago sativa	BAA32973.1	W73234	Linum usitatissimum
BAF98491.1	L36981	Petroleumum crispum	BAA61602.1	L07554	Medicago sativa
BAF02326.1	U59284	Linum usitatissimum	BAA41810.1	L36156	Spinacia oleracea
BAF77387.1	AB024437	Scutellaria baicalensis	BAA63027.1	AF244924	Spinacia oleracea
CBA66037.1	X97351	Populus balsamifera subsp.	BAA34108.1	J02975	Nicotiana tabacum
trichocarpa			BAA43561.1	AF155124	Gossypium hirsutum
CBA71486.1	X10462	Spinacia oleracea	SEQ ID NO. 859		
BAA01950.1	D11337	Vigna angularis	BAF6339.1	AJ005082	Cyanopsis tetragonoloba
BAA11443.1	D90115	Amoracia rusticana	BAF6532.1	U31544	Pisum sativum
CBA71490.1	X10464	Spinacia oleracea	BAF6533.1	U31544	Cyanopsis tetragonoloba
CBA94692.1	AJ242742	Ipomoea batatas	CAC14890.1	AJ005081	Pyramis australis
BAA92497.1	AF001383	Oryza sativa	CAC14890.1	AJ005081	Pyramis australis
BAF36707.1	AF078691	Manihot esculenta	CBA61752.1	AJ275318	Cicer arietinum
BAA92422.1	AP001366	Oryza sativa	BAA40967.1	AB059568	Pisum sativum
CBA62226.1	X90693	Medicago sativa	BAA68605.1	U82433	Prunus armeniaca
BAF63024.1	AF244921	Spinacia oleracea	SEQ ID NO. 860		
BAA32676.1	M37637	Arachis hypogaea	BAF98390.1	AJ287143	Brassica napus
BAA11853.1	D83225	Populus nigra			

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AAK28805.1	AF310960	Linum usitatissimum	AA025300.1	AF088276	Lycopersicon esculentum
AAK28803.1	AF310958	Linum usitatissimum	CA063704.1	X93301	Oryza sativa
AAK28804.1	AF310959	Linum usitatissimum	AA024966.1	AF109150	Lycopersicon esculentum
CAC35321.1	AJ310150	Linum usitatissimum	AA025225.1	AF088279	Potamogeton crispus
CAC35327.1	AJ310152	Linum usitatissimum	SEQ ID NO. 864		
AA009953.1	AF175398	Glycine max	AA032468		Zea mays
CAC35332.1	AJ310157	Linum usitatissimum	CA032662.1		Zea mays
AA025973.1	AF093646	Linum usitatissimum	CA030577.1	AJ002959	Triticum aestivum
CAC35337.1	AJ310162	Linum usitatissimum	BA034310.1	W62720	Artemisia maritima
CAC35325.1	AJ310150	Linum usitatissimum	BA073016.1	AF262934	Nicotiana tabacum
CAC35336.1	AJ310161	Linum usitatissimum	BA040310.1	AF026055	Nicotiana tabacum
CAC35328.1	AJ310153	Linum usitatissimum	BA040311.1	AF026056	Lycopersicon esculentum
CAC35330.1	AJ310155	Linum usitatissimum	AA034125.1	L23762	Lycopersicon esculentum
CAC35333.1	AJ310158	Linum usitatissimum	AA086617.1	AF034946	Zea mays
CAC35339.1	AJ310164	Linum usitatissimum	CA051821.1	X73419	Lycopersicon esculentum
CAC35338.1	AJ310163	Linum usitatissimum	AA051109.1	AF176040	Nesembryanthemum crystallinum
CAC35331.1	AJ310154	Linum usitatissimum	AA064427.1	L29077	Pisum sativum
CAC35334.1	AJ310156	Linum usitatissimum	AA042941.1	AF091621	Catharanthus roseus
CAC35326.1	AJ310159	Linum usitatissimum	AA0802166.1	U15971	Oryza sativa
CAC35323.1	AJ310151	Linum usitatissimum	BA090392.1	AF001081	Oryza sativa
AA009952.1	AF175389	Glycine max	AA063513.1	AF008910	Prunus americana
AA043546.1	AF211528	Nicotiana tabacum	AA066089.1	U17250	Brassica oleracea
AA025967.1	AF093640	Linum usitatissimum	CA010494.1	AJ131733	Pseudotsuga menziesii
AA025970.1	AF093643	Linum usitatissimum	CA058111.1	X82938	Lycopersicon esculentum
AA025966.1	AF093639	Linum usitatissimum	AA023847.1	AF004247	Lycopersicon esculentum
AA025971.1	AF093644	Linum usitatissimum	AA022280.1	AF165420	Nesembryanthemum crystallinum
AA025965.1	AF093638	Linum usitatissimum	AA034309.1	M28059	Triticum aestivum
AA047618.1	U73916	Linum usitatissimum	BA021006.1	D17786	Oryza sativa
CA008719.1	AJ009719	Solanum tuberosum	AF032336.1	AF180143	Glycine max
AA025968.1	AF093641	Linum usitatissimum	AA032141.1	AF051240	Picea mariana
AA025974.1	AF093647	Linum usitatissimum	SEQ ID NO. 865		Solanum tuberosum
AA025975.1	AF093649	Linum usitatissimum	CA065735.1	X97012	
AA031022.1	U7081	Linum usitatissimum	SEQ ID NO. 866		
AA025972.1	AF093645	Linum usitatissimum	CA063056.1	X92075	Solanum tuberosum
AA025969.1	AF093642	Linum usitatissimum	AA03291.1	AF201458	Nesembryanthemum
AA025976.1	AF093649	Linum usitatissimum	CA043167.1	X60755	Cicer arietinum
AA091021.1	U27081	Linum usitatissimum	SEQ ID NO. 867		
AA01052.1	AF175395	Glycine max	AA025558.1	AF049933	Petunia x hybrida
SEQ ID NO. 863					

SEQ ID NO.	870	Parthenium argentatum	SEQ ID NO.	873	Solanum tuberosum
CRA55047.1	X78213	Zea mays	CRA49463.1	X59805	Solanum tuberosum
CRA56025.1	X86553	Zea mays	ANA7086.1	Y06786	Solanum tuberosum
AAAD11459.1	U62748	Zea mays	ANA7086.1	U66376	Triticum aestivum
CRA49360.1	U29383	Zea mays	BAB40334.1	U65948	Zea mays
AAAB71080.1	U62753	Zea mays	BAAD1584.1	AD042937	Ipomoea batatas
AAAD11446.1	U62749	Zea mays	BAAD2884.1	DI0752	Oryza sativa
AAAD11447.1	U62750	Zea mays	BAAD1616.1	DI0838	Oryza sativa
AAAB91168.1	U40147	Zea mays	BAAD1855.1	DI1082	Oryza sativa
AAAB71079.1	U62752	Zea mays	CBA40981.1	AJ237897	Triticum aestivum
AAAB71078.1	U62751	Zea mays	CBA40979.1	AJ237897	Triticum aestivum
BAAB92988.1	AF001550	Oryza sativa	CBA40980.1	AJ237897	Triticum aestivum
CRA47042.1	X66411	Chlamydomonas reinhardtii	CBA40981.1	AJ237897	Triticum aestivum
CRA63814.1	L46848	Glycine max	CBA40982.1	X77012	Manihot esculenta
SEQ ID NO.	872	Solanum tuberosum	CRA47622.1	X77012	Triticum aestivum
CBA40743.1	AJ011885	Solanum tuberosum	CRA454308.1	Y112320	Triticum aestivum
CBA40746.1	AJ011888	Solanum tuberosum	CRA72987.1	AF286317	Triticum aestivum
CBA40748.1	AJ011890	Solanum tuberosum	BAAG2349.1	AB028549	Phaseolus vulgaris
AAAD30186.1	AF076679	Triticum aestivum	ABG1525.1	AF0202820	Triticum aestivum
AAAD30187.1	AF076680	Aegilops tauschii	CBA40745.1	AJ011891	Solanum tuberosum
BAAB2348.1	AF029548	Phaseolus vulgaris	CBA40744.1	AJ011886	Solanum tuberosum
CRA56319.1	X80009	Pisum sativum	BAAB5762.1	AB028067	Nicotiana tabacum
CBA40747.1	AJ011889	Solanum tuberosum	CBA40337.1	X69713	Manihot esculenta
CRA40384.1	AJ000004	Solanum tuberosum	BAAB40335.1	AB042940	Ipomoea batatas
BAAB3738.1	DI6201	Oryza sativa	CRA49370.1	X69712	Manihot esculenta
CRA27623.1	AF286319	Triticum aestivum	RAF2336.1	AF064563	Hordeum vulgare
CRA72154.1	Y11282	Triticum aestivum	SEQ ID NO.	873	Brassica napus
AAK26821.1	AF338431	Aegilops tauschii	RAA19571.1	U10150	Brassica napus
AAK26822.1	AF338432	Triticum aestivum	RAA10244.1	AF030032	Phaseolus vulgaris
AAK33764.1	AJ072725	Zea mays	RAA95157.1	U20297	Solanum tuberosum
AAAB18571.1	L08065	Zea mays	RAA95156.1	U20296	Solanum tuberosum
BAAB2828.1	AF023498	Oryza sativa	RAA82351.1	U20295	Solanum tuberosum
CRA69753.1	AB023498	Hordeum vulgare	RAA85155.1	U20294	Solanum tuberosum
CRA56320.1	X80010	Pisum sativum	RAA92681.1	U13862	Pisum sativum
CRA69754.1	AF064561	Hordeum vulgare	CRA78301.1	Z12839	Lilium longiflorum
CRA36471.1	AF072724	Zea mays	RAA10246.1	AF030034	Phaseolus vulgaris
AAAB2735.1	Y17897	Zea mays	RAA49587.1	U49105	Triticum aestivum
AAAB50279.2	AF169833	Sorghum bicolor	RAA49586.1	U49104	Triticum aestivum
BAAB1854.1	DI1081	Zea mays	RAA49585.1	U49103	Triticum aestivum
			RAA49584.1	U48693	Triticum aestivum

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AA009954.1	AF175399	Glycine max	Linum usitatissimum
AA009951.1	AF175388	Glycine max	Linum usitatissimum
AA025965.1	AF093638	Linum usitatissimum	Linum usitatissimum
AA025968.1	AF093641	Linum usitatissimum	Linum usitatissimum
AAA91021.1	U27081	Linum usitatissimum	Linum usitatissimum
AA01022.1	U27081	Linum usitatissimum	Linum usitatissimum
CAC35330.1	AJ310155	Linum usitatissimum	Linum usitatissimum
AD25973.1	AF093646	Linum usitatissimum	Linum usitatissimum
CAC35339.1	AJ310164	Linum usitatissimum	Linum usitatissimum
CAC35326.1	AJ310151	Linum usitatissimum	Linum usitatissimum
AD25974.1	AF093647	Linum usitatissimum	Linum usitatissimum
AD25966.1	AF093639	Linum usitatissimum	Linum usitatissimum
AD25975.1	AF093648	Linum usitatissimum	Linum usitatissimum
AD25976.1	AF093649	Linum usitatissimum	Linum usitatissimum
AD25972.1	AF093645	Linum usitatissimum	Linum usitatissimum
AD25971.1	AF093644	Linum usitatissimum	Linum usitatissimum
AD25970.1	AF093643	Linum usitatissimum	Linum usitatissimum
AD25967.1	AF093640	Linum usitatissimum	Linum usitatissimum
AD25969.1	AF093642	Linum usitatissimum	Linum usitatissimum
CAC35321.1	AJ310150	Linum usitatissimum	Linum usitatissimum
AG01052.1	AF175395	Glycine max	Linum usitatissimum
AG01051.1	AF175394	Linum usitatissimum	Linum usitatissimum
CAC35333.1	AJ310158	Linum usitatissimum	Linum usitatissimum
CAC35329.1	AJ310154	Linum usitatissimum	Linum usitatissimum
CAC35337.1	AJ310162	Linum usitatissimum	Linum usitatissimum
CAC35334.1	AJ310159	Linum usitatissimum	Linum usitatissimum
CAC35338.1	AJ310163	Linum usitatissimum	Linum usitatissimum
ABA47618.1	U73916	Linum usitatissimum	Linum usitatissimum
CAC35331.1	AJ310156	Linum usitatissimum	Linum usitatissimum
CAC35323.1	AJ310150	Linum usitatissimum	Linum usitatissimum
CAC35328.1	AJ310153	Linum usitatissimum	Linum usitatissimum
CAC35332.1	AJ310161	Linum usitatissimum	Linum usitatissimum
CAC35330.1	AJ310157	Linum usitatissimum	Linum usitatissimum
CAC35325.1	AJ310150	Linum usitatissimum	Linum usitatissimum
CAC35327.1	AJ310152	Linum usitatissimum	Linum usitatissimum
AF61452.1	AF193623	Tagetes erecta	Linum usitatissimum
AK28811.1	AF310966	Linum usitatissimum	Linum usitatissimum
AK28806.1	AF310960	Linum usitatissimum	Linum usitatissimum
AK28812.1	AF310968	Linum usitatissimum	Linum usitatissimum
AK28810.1	AF310964	Linum usitatissimum	Linum usitatissimum
AK28809.1	AF310962	Linum usitatissimum	Linum usitatissimum
AAK28805.1	AF310960	Linum usitatissimum	Linum usitatissimum
AAK28808.1	AF310961	Linum usitatissimum	Linum usitatissimum
SEQ ID NO. 889			
CA18055.1	AF041848	Spinacia oleracea	Spinacia oleracea
CAC26113.1	AF073830	Solanum tuberosum	Solanum tuberosum
ABA64291.1	AF007582	Zea mays	Zea mays
SEQ ID NO. 891			
CAB56569.1	AJ011622	Antirrhinum majus	Antirrhinum majus
CAB56570.1	AJ011623	Antirrhinum majus	Antirrhinum majus
CAB56568.1	AJ011621	Antirrhinum majus	Antirrhinum majus
BA51071.1	U99496	Zea mays	Zea mays
CAC63113.1	X92369	Antirrhinum majus	Antirrhinum majus
CAC63061.1	X92079	Antirrhinum majus	Antirrhinum majus
SEQ ID NO. 892			
CAB56570.1	AJ011623	Antirrhinum majus	Antirrhinum majus
CAB56569.1	AJ011622	Antirrhinum majus	Antirrhinum majus
CAC63061.1	X92079	Antirrhinum majus	Antirrhinum majus
CAB56568.1	AJ011621	Antirrhinum majus	Antirrhinum majus
CAC63113.1	X92369	Antirrhinum majus	Antirrhinum majus
BA51071.1	U99496	Zea mays	Zea mays
ABA70119.1	U92230	Zea mays	Zea mays
SEQ ID NO. 893			
CAAY1800.1	Y10847	Brassica juncea	Brassica juncea
CAAY1798.1	Y10845	Brassica juncea	Brassica juncea
CAAC25635.1	AF044172	Solanum tuberosum	Solanum tuberosum
RAA01279.1	D10476	Spinacia oleracea	Spinacia oleracea
RAA02438.1	D13153	Triticum aestivum	Triticum aestivum
CAS9798.1	X58803	Zea mays	Zea mays
RAA23907.1	AF073695	Oryza sativa	Oryza sativa
RAA23909.1	AF073697	Oryza sativa	Oryza sativa
CAAC25636.1	AF044073	Solanum tuberosum	Solanum tuberosum
CAAC6819.1	XJ006024	Cicer arietinum	Cicer arietinum
CAB68086.1	X64874	Capsicum annuum	Capsicum annuum
AAAL1799.1	Y10846	Brassica juncea	Brassica juncea
AAAL16973.1	I05184	Chloroplast Spinacia oleracea	Chloroplast Spinacia oleracea
AD23908.1	AF073596	Oryza sativa	Oryza sativa
AD23910.1	AF073698	Oryza sativa	Oryza sativa

SEQ ID NO. 896	AAA21758.1	U14956	Vicia faba	AAA97736.1	AF024634	Petroselinum crispum
	AAA30978.1	X12446	Pisum sativum	CAC05022.1	U67186	Eschscholzia californica
	CMB71293.1	AJ250378	Capsicum annuum	CAC27143.1	AJ132538	Picea abies
	AAA33029.1	M55528	Mesembryanthemum crystallinum	AAK14746.1	AF057182	Pisum sativum
	AAA34029.1	N86349	Spinacia oleracea	AAK15261.1	AF302498	Populus x generosa
	CA74359.1	Y14032	Nicotiana tabacum	CAH81210.1	226251	Hellanthus tuberosus
	RAA02327.1	AB035645	Zea mays	CAH81211.1	226252	Vicia sativa
	RAA04616.1	D17790	Oryza sativa	CAH81212.1	AF057179	Pisum sativum
	RAA90642.1	AF003129	Oryza sativa	RAA14743.1	AF057181	Pisum sativum
	RAA55425.1	AF000616	Oryza sativa			Spinacia oleracea
	RAA88236.1	AB035644	Zea mays	CAH50820.1	X71397	Volvox carterii f. nagariensis
	RAA13417.1	D87347	Oryza sativa	CAH55373.1	AF110793	
	RAA07479.1	D38445	Oryza sativa			
	RAA02248.1	D12815	Oryza sativa	SEQ ID NO. 898		
	RAA04232.1	D17410	Oryza sativa	AAU27880.2	AF139468	Vigna radiata
	RAA20365.1	AB004307	Nicotiana tabacum	AAA33344.1	M83119	Flaveria trinervia
	CAH57796.1	X39419	Pisum sativum	AAH8147.1	U08135	Hordeum vulgare
	AAA40034.1	U10418	Zea mays	AAH78106.1	AF093634	Oryza sativa
	AAK09367.1	AF321525	Pisum sativum	AAH19787.1	AF162201	Chloroplast Lactuca sativa
	AAA79131.1	U10545	Chlamydomonas reinhardtii	AAU27871.1	AF135791	Chlamydomonas reinhardtii
	AAK09369.1	AF321527	Pisum sativum			
	AAK09368.1	AF321526	Pisum sativum	SEQ ID NO. 899		
	AAA40978.1	U22328	Volvox carterii	CMA43941.1	X61664	Nicotiana sylvestris
	CAA55406.1	X78851	Chlamydomonas reinhardtii	AAH26196.1	AF052076	Zea mays
	AAA59303.1	L15567	Pisum sativum	AAH78107.1	AF093635	Oryza sativa
	RAA59333.1	L15566	Pisum sativum	CMA34218.1	X16092	Hordeum vulgare
	RAA59349.1	L15565	Pisum sativum			
	RAA59304.1	L15569	Pisum sativum	SEQ ID NO. 900		
	CAA45703.1	X64351	Spinacia oleracea	RAA25432.1	AB000706	Raphanus sativus
	CAA49446.1	X69791	Catharanthus roseus	AAH47752.1	U77952	Malus x domestica
	RAA05021.1	U67185	Papaver somniferum	CMA50259.1	X70502	Nicotiana tabacum
	CAA81209.1	Z26250	Hellanthus tuberosus	CMA88361.1	Z48451	Capsicum annuum
	AAA34240.1	L07843	Vigna radiata	CMA09882.1	X3011943	Lycopersicon esculentum
	AAK15259.1	AF302496	Populus x generosa	CMA0260.1	X70903	Nicotiana tabacum
	AAH99837.3	Z49767	Pseudotsuga menziesii	CAH22356.1	X91839	Fraxinus x anatolica
	AAH17471.1	AF123610	Triticum aestivum	AAA33431.1	L08426	Zea mays
	AAH15260.1	AF302497	Populus x generosa	AAH25115.1	S53630	Zea mays
	AAA97737.1	AF024635	Petroselinum crispum	AAA33430.1	L08425	Zea mays
				CAA40061.1	X56737	Zea mays

CAA34376.1	X16309	Zea mays	SEQ ID NO. 901	AA653901.1	U22432	Zea mays
CAA33436.1	J04550	Zea mays		AA897115.1	U58634	Glycine max
BA25433.1	AB000707	Avena sativa		BA28535.1	S66160	Oryza sativa
CAF37576.1	AF233229	Ceratodon purpureus				
AAA33432.1	L08427	Zea mays				
				SEQ ID NO. 902		
				AA507163.1	U15605	Nicotiana glutinosa
				CAA08798.1	AD009720	Solanum tuberosum
				CAA98183.1	AF373955	
				CAA54506.1	W77301	Glycine max
				AAAD02108.1	AF1310962	Linum usitatissimum
				RAA48018.1	AF1310964	Linum usitatissimum
				CAA98186.1	AF3110959	Linum usitatissimum
				AAAD48019.1	AF3110968	Linum usitatissimum
				AA47558.1	AF3110960	Linum usitatissimum
				CAA54507.1	AF3110958	Linum usitatissimum
				BA06701.1	AF310961	Linum usitatissimum
				BA025904.1	AF310966	Linum usitatissimum
				KA57003.1	AF310960	Linum usitatissimum
				CA089049.1	AF311053	Linum usitatissimum
				CA98181.1	AF211528	Nicotiana tabacum
				BA02114.1	AF310157	Linum usitatissimum
				CAA98180.1	AF310150	Linum usitatissimum
				W77352	AF310161	Linum usitatissimum
				AA087114.1	AF009719	Solanum tuberosum
				CAA98179.1	AF310150	Linum usitatissimum
				BA02113.1	AF310154	Linum usitatissimum
				AA02437.1	AF310151	Linum usitatissimum
				CAA98177.1	AF310164	Linum usitatissimum
				BA02112.1	AF310163	Linum usitatissimum
				BA02111.1	AF310155	Linum usitatissimum
				CAA98184.1	AF310159	Linum usitatissimum
				BA02110.1	AF310162	Linum usitatissimum
				CA01966.1	AF310152	Linum usitatissimum
				CA95859.1	AF310150	Linum usitatissimum
				BA06702.1	AF310156	Linum usitatissimum
				CAA98178.1	AF310158	Linum usitatissimum
				BA02109.1	AF093647	Linum usitatissimum
				BA04640.1	AF093649	Linum usitatissimum
				CAA67153.1	AF175398	Glycine max
				CA55965.1	AF093638	Linum usitatissimum
				W79278	AF093636	Linum usitatissimum
				CAA98182.1	AF093638	Linum usitatissimum
				AAA34253.1	AF093640	Linum usitatissimum





AAK25822.1	AF350505	Phaseolus vulgaris	BRM84439.1	AB018685	Camellia sinensis
CAA41453.1	X58577	Petroselinum crispum	BAAY4700.1	AB018438	Ipomoea purpurea
BRM11431.1	D78609	Oryza sativa	BAH84048.1	AF028601	Ipomoea purpurea
CAA36492.1	AB021736	Oryza sativa	BRM84048.1	AB018686	Camellia sinensis
AAK01953.1	AY026054	Phaseolus acutifolius	CAAS3578.1	X75964	Vitis vinifera
CAA37418.1	L34551	Oryza sativa	BAF34637.1	AB019243	Ipomoea batatas
CAA70216.1	Y09013	Triticum aestivum	RAF17576.1	AF1620182	Glycine max
CAA71795.1	Y10834	Hordeum vulgare	BAH54273.1	AF167556	Glycine max
AAK36514.1	U57389	Phaseolus vulgaris	BAH36407.1	AB011667	Ipomoea purpurea
CAA71768.1	X10809	Petroselinum crispum	AAK26578.1	AF184271	Daucus carota
AAK14790.1	AY027510	Catharanthus roseus	AAK25960.1	AF029685	Fragaria x ananassa
CAC00656.1	AJ292743	Petroselinum crispum	CAF75997.1	Y16041	Zea mays
CAA11499.1	AJ223624	Spinacia oleracea	BAH94014.1	AF1010283	Sorghum bicolor
CAA66477.1	X97903	Vicia faba	CAF75998.1	Y16042	Zea mays
			CAF75996.1	Y16040	Zea mays
SEQ ID NO. 912			SEQ ID NO. 914		
AGG09817.1	AJ278698	Lolium perenne	CAH57551.1	X92030	Phaseolus vulgaris
CAH1376.1	AJ231134	Saccharum officinarum	CAH66479.1	X79805	Vicia faba
CAH66707.1	X98083	Zea mays	CAC01237.1	AJ282767	Nicotiana glauca
CAA74071.1	Y13734	Zea mays	AAH66823.1	AF190655	Nicotiana glauca
CAC07424.1	AJ295838	Populus balsamifera subsp.	AAK30205.1	AF349964	Daucus carota
trichocarpa			AAH38974.1	U81318	Triticum aestivum
CAA12276.1	AJ224986	Populus balsamifera subsp.	CAH81127.1	Z26042	Anemia phyllitidis
trichocarpa			AAH79045.1	U34742	Spinacia oleracea
AAH43141.1	AF217958	Populus tremuloides	AAK39368.1	AF043297	Chlamydomonas reinhardtii
CAA56103.1	X79566	Eucalyptus gunnii	AAH63202.1	AF240679	Cucumis sativus
AAH66063.1	X97433	Eucalyptus gunnii	CAH11894.1	AJ224325	Hordeum vulgare
AAH61624.1	AF237877	Eucalyptus saligna	AAH66825.1	AF190657	Nicotiana glauca
CAA73552.1	Y15069	Zea mays	CAA06469.1	AJ005286	Hordeum vulgare
AAH49393.1	AF169801	Vigna radiata	SEQ ID NO. 915		
CAA78930.1	217221	Lilium hybrid cv. 'Acapulco'	CAC37011.1	AJ238318	Oryza sativa
CAA74240.1	Y11749	Gerbera hybrida	SEQ ID NO. 918		
CAA91922.1	267981	Vitis vinifera	CAH77595.1	Z11510	Pisum sativum
AAH56579.1	AF184272	Callistephus chinensis	SEQ ID NO. 920		
BAH40789.1	RN058641	Daucus carota	BRM33755.2	AB017480	Nicotiana glauca
BAH22072.1	RN006792	Lilium hybrid division I	CAH2084.1	X90472	Capsicum annuum
BAH25204.1	AF117468	Ipomoea nil	AAK15322.1	AF332134	Chloroplast Medicago sativa
BAH59333.1	AB006793	Morus x domestica			
BAH74699.1	AB018437	Ipomoea nil			
BAH36406.1	AB011667	Ipomoea purpurea			

AA017230.1	AF117339	Nicotiana tabacum	AAK11569.1	AF318492	Lycopersicon hirsutum
CA009935.1	AJ012165	Capsicum annuum	AAAF91336.1	AF249317	Glycine max
BA017624.1	A0033535	Oryza sativa	SEQ ID NO. 927		
BA013021.1	D66121	Spinacia oleracea	CA051545.1	AJ243876	Lycopersicon esculentum
BA027516.1	AF220199	Pinus taeda	SEQ ID NO. 928		
BA019680.1	AF052887	Oryza sativa	AAAF0450.1	AF161719	Triticum aestivum
BA017626.1	AB033537	Oryza sativa	AA072140.1	U79588	Pisum sativum
BA017625.1	AB033536	Oryza sativa	AA022842.1	Ar209910	Prunus dulcis
CA055889.1	AL117264	Oryza sativa	AAK31596.1	AY029172	Helianthus annuus
BA067835.1	U43398	Solanum tuberosum	AA072113.1	U79961	Zea mays
AAAF12877.1	AF205377	Chlamydomonas reinhardtii	BA092985.1	AF001550	Oryza sativa
AAAF37267.1	AF220406	Vitis riparia	SEQ ID NO. 929		
CA060695.1	Cicer arietinum		AAK09431.1	AF234244	Phaseolus vulgaris
SEQ ID NO. 926	Brassica napus		AAA18546.1	M94204	Nicotiana tabacum
AAK21965.1	AY028699	Oryza sativa	AAAF1312.1	AF145053	Oryza sativa
AAAG03090.1	AC073405	Brassica napus	AAAG32661.1	AF264877	Zea mays
AAAG16628.1	AY007545	Daucus carota	AAK08141.1	AF234537	Pelargonium graveolens
AAAB1708.1	U93048	Lophopyrum elongatum	AA054821.1	AF137379	Chloroplast Nephrolepis
AAAF43496.1	AF131222	Lophopyrum elongatum	olivaacea		
AAK11674.1	AF339747	Lophopyrum elongatum	CAA74893.1	Y14561	Pisum sativum
BA078764.1	AB023482	Oryza sativa	AAAF3860.1	AF166114	Chloroplast Mesostigma viride
AAK33915.1	L27821	Oryza sativa	CAA75382.1	Y15108	Glycine max
BA094509.1	AF041503	Populus nigra	SEQ ID NO. 936		
CA071334.1	Y12531	Brassica oleracea	AAAF38796.1	U73203	Nicotiana glutinosa
BA045104	AB041504	Populus nigra	AA069757.1	U75644	Lycopersicon esculentum
CA051934.1	D00649	Oryza sativa	AAAF49666.1	U83708	Lycopersicon esculentum
CA051805.1	U28007	Lycopersicon esculentum	SEQ ID NO. 937		
AAK23542.1	U20846	Ipomoea trifida	AAK24195.1	AF020425	Nicotiana tabacum
BA092954.1	AF001551	Oryza sativa	AAK18620.1	AF352732	Nicotiana tabacum
CA097692.1	Z73295	Catharanthus roseus	AAAB0608.1	U54774	Nicotiana tabacum
AAAF66615.1	AF142596	Nicotiana tabacum	AAK33710.1	L16977	Petunia x hybrida
AAAF93834.1	U62481	Zea mays	AAK33709.1	L16797	Fetunia x hybrida
AAAF76313.1	AF220603	Lycopersicon esculentum	AAAC39483.1	AF020424	Nicotiana tabacum
AAAB47421.1	U59316	Lycopersicon esculentum	BA032870.1	AB056062	Oryza sativa
CA089179.1	A0245479	Brassica napus subsp. napus	BA032868.1	AB056060	Oryza sativa
AAAC33008.1	M97667	Brassica napus	BA032871.1	AB056063	Oryza sativa
AAAF11337.1	AF249318	Glycine max			
AAAF91324.1	AF244890	Glycine max			
AAAF91322.1	AF244889	Glycine max			
BA023676.1	AB000970	Brassica rapa			

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BAB32869.1	AB056061	Oryza sativa	AF053127	Malus x domestica
CRA50719.1	X71900	Lycopersicon esculentum	U93048	Daucus carota
SEQ ID NO. 938			AF244889	Glycine max
AAF61647.1	AF190634	Nicotiana tabacum	U77888	Ipomoea nil
AAAS99054.1	I34847	Zea mays	AF244890	Glycine max
BAAS9909.1	AB027455	Petunia x hybrida	AF244888	Glycine max
BAAS36423.1	AB013598	Varचना x hybrida	AF197947	Glycine max
AFAS98390.1	AF287143	Brassica napus	AF028699	Brassica napus
BAAS36421.1	AB013596	Perilla frutescens	AC073405	Oryza sativa
BAAS39309.1	AB033758	Citrus unshiu	AF250467	Pinus sylvestris
BAAS36422.1	AB013597	Perilla frutescens	AF119222	Oryza sativa
BAAS36484.1	AB031274	Scutellaria baicalensis	U77888	Ipomoea nil
CRA56231.1	I18871	Dortheanthus bellidifloris	AF249318	Glycine max
AAAS6653.1	U32644	Nicotiana tabacum	AF249317	Glycine max
AAAS6652.1	U32643	Nicotiana tabacum	I27821	Oryza sativa
AAK28303.1	AF346431	Nicotiana tabacum	U28007	Lycopersicon esculentum
AAK28304.1	AF346432	Nicotiana tabacum	AF302082	Nicotiana tabacum
BAAS9450.1	X95138	Lycopersicon esculentum	AF000559	Oryza sativa
BAAS99008.1	AB027454	Petunia x hybrida	AF197946	Glycine max
AAAF1077.1	AF199453	Sorghum bicolor	BAAS3373.1	Oryza sativa
AAAB1683.1	AF000372	Vitis vinifera	SEQ ID NO. 940	
BAB41017.1	AB047090	Vitis labrusca x Vitis vinifera	CRA06339.1	Cyamopsis tetragonoloba
BAB41022.1	AB047095	Vitis vinifera	Pisum sativum	
BAB41020.1	AB047093	Vitis vinifera	U31544	Cyamopsis tetragonoloba
BAB12737.1	D85186	Gentiana triflora	AAAS6532.1	Cyamopsis tetragonoloba
BAB41018.1	AB047091	Vitis labrusca x Vitis vinifera	BAAS40967.1	Pisum sativum
AAAD21086.1	AF127218	Forsythia x intermedia	SEQ ID NO. 941	
BAAB1682.1	AF000371	Vitis vinifera	BAE27811.1	Brassica napus
BAB19659.1	AB002818	Perilla frutescens	BAE27811.1	Brassica napus
AAAD04166.1	AF101972	Phaseolus lunatus	AF085197	Nicotiana tabacum
BAAS90787.1	AB038248	Ipomoea batatas	AF038875	Nicotiana tabacum
BAAB96473.1	AF028237	Ipomoea purpurea	AB025029	Nicotiana tabacum
CRA5614.1	X77464	Manihot esculenta	AF0305075	Nicotiana benthamiana
SEQ ID NO. 939			CRA10108.1	Nicotiana tabacum
AAK28345.1	AF243040	Lycopersicon esculentum	AAAD19903.1	Nicotiana tabacum
AAK28346.1	AF243041	Ze mays	AF104412	Nicotiana tabacum
AAK12254.1	U58474	Lycopersicon esculentum	CRA176392.1	Pisum sativum
AAK12253.1	U58473	Lycopersicon esculentum	Y16796	Pisum sativum
AAAS33715.1	I27341	Petunia integrifolia	Y18135	Nicotiana tabacum
			BAAS33151.1	Pisum sativum
			CRA37979.1	Oryza sativa
			BAAS4512.1	Populus nigra













BA040511.1	D17587	Oryza sativa	AB03256.1	U44773	Zea mays
BAH01757.1	D10865	Oryza sativa	CA85283.1	Y74217	Zea mays
BAH19126.1	AF002839	Oryza sativa	AF12800.1	AF12808	Catharanthus roseus
BAH94235.1	AF001533	Oryza sativa	AF28839.1	AF29391	Avena sativa
ACACB71127.1	AF071659	Cicer arietinum	AA00614.1	AF293849	Secale cereale
AAA92064.1	U49741	Vigna radiata	CA4A0057.1	X56733	Trifolium repens
AA9A92062.1	U49382	Vigna radiata	CAAS5196.1	X78433	Avena sativa
CAA92216.1	Z68130	Pisum sativum	AB71381.1	U95298	Manihot esculenta
	990		AK07429.1	AF321287	Musa acuminata
AAAD16018.1	AF081514	Taxus canadensis	CA79989.2	D21977	Brassica napus
			CAAS7913.1	X82577	Brassica napus
	991		AB38784.1	Y72154	Brassica nigra
			CNC08209.1	AJ005950	Cicer arietinum
AAE1901.1	AF109392	Brassica napus	AAA84906.1	U28047	Oryza sativa
	995		SEQ ID NO. 1004		
CAH2596.1	X59970	Brassica napus	AF19196.1	AF206320	Musa acuminata
BAH8179.1	AF000836	Oryza sativa	AFH1208.1	U63530	Fragaria x ananassa
CAH5502.1	X96727	Nicotiana tabacum	AF63756.1	AF243475	Vitis vinifera
CAH7720.1	X57310	Solanum tuberosum	AF9195.1	AF206319	Musa acuminata
CAH74777.1	Y14432	Nicotiana tabacum	CAH70735.1	Y09541	Zinnia elegans
CAH74776.1	Y14431	Nicotiana tabacum	CAH3496.1	X92943	Musa acuminata
CAH76076.1	Y16126	Lycopersicon esculentum	AAH86241.1	U41472	Medicago sativa
	1003		CAH7630.1	X67158	Nicotiana tabacum
AAH931166.1	U39228	Prunus avium	CAH3414.1	X61102	Nicotiana tabacum
BAH11831.1	D93177	Castanea coccinea	CAH3413.1	X61101	Nicotiana tabacum
AFH3097	AF163097	Delbergia coccinchinensis	CAH47631.1	X67159	Nicotiana tabacum
AFH4007.1	AF163097	Prunus serotina	SEQ ID NO. 1005		
AFH34650.1	AF221526	Rauwolfia serpentina	AFK07429.1	AF321287	Musa acuminata
AFH3675.1	AF149311	Cucurbita pepo	CAH69619.1	AF072736	Pinus conorta
AFH25897.1	AF170087	Polygonum tinctorium	AFH4007.1	AF163097	Daiberigia coccinchinensis
BAH78708.1	AB003089	Manihot esculenta	BAH78708.1	AB003089	Polygonum tinctorium
CAH64442.1	X34986	Manihot esculenta	BAH1831.1	D85177	Costus speciosus
AAE2162.1	S35175	Manihot esculenta	AFH3675.1	AF149311	Rauwolfia serpentina
AAH09850.1	U44087	Zea mays	AA00614.1	AF293849	Secale cereale
AAH49177.1	U33817	Sorghum bicolor	AAH06116.1	U39228	Pinus conorta
CAH49177.1	U33817	Pinus conorta	AFH25897.1	AF170087	Cucurbita pepo
CAH40058.1	X56734	Trifolium repens	AFH34650.1	AF221526	Prunus serotina
AAH87339.1	L18669	Hordeum vulgare	AAH49177.1	U33817	Sorghum bicolor
AAH65946.1	U25157	Zea mays	AAE22162.1	S35175	Manihot esculenta
AAH10503.1	U33816	Zea mays			







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AAB66355.1	US4702	Oryza sativa	BAB18937.1	AB052228	Cucumis melo var. reticulata
AAF64480.1	AF121536	Ipomoea batatas	BAB58817.1	AB026498	Cucumis sativus
AAD13812.1	AF171334	Ipomoea batatas	ABC31123.1	AF032448	Malus x domestica
AAA97906.1	U51854	Glycine max	ABF08300.1	AF113748	Musa acuminata
AA371505.1	U82220	Pyrus communis	AAF61919.1	AF227742	Mangifera indica
AAK15090.1	AF240007	Sesamum indicum	AAO37577.1	AF141929	Pearlaponium x hortorum
AA575907.1	U51855	Glycine max	AAO37576.1	AF141928	Pearlaponium x hortorum
CAA72790.1	U12068	Hordeum vulgare	AAO22213.1	AF043084	Lycopersicon esculentum
CA326792.1	L16624	Ipomoea artemisiifolia	AAO5479.1	U41103	Lycopersicon esculentum
AAK30004.1	AF028994	Dianthus caryophyllus	BAE68819.1	U63291	Rumex palustris
AD33907.1	AF143677	Artemisia vulgaris	CAE69446.1	Y08359	Brassica oleracea
FB18768.1	AB038394	Triticum aestivum	CAE39497.1	AF047476	Rumex palustris
FB18766.1	AB038392	Triticum aestivum	BAE97160.1	AF022727	Nicotiana tabacum
CA50437.1	X71124	Carica papaya	AAO2214.1	AF043085	Lycopersicon esculentum
CAE9278.1	AF064734	Dianthus caryophyllus	BAE39386.1	U42799	Lycopersicon esculentum
BB18767.1	AB038393	Triticum aestivum	CAE76929.1	AJ276294	Citrus sinensis
AA33911.1	X57658	Oryza sativa	BAE96748.1	AB035806	Dianthus caryophyllus
AA33911.1	J05595	Oryza sativa	AAO31396.1	AF118843	Lycopersicon esculentum
BAE18769.1	AB038395	Triticum aestivum	AAO31213.3	AF026267	Nicotiana tabacum
BAE18765.1	AB038391	Triticum aestivum	BAE31718.1	AF040406	Zea mays
AA11620.1	L16450	Solanum tuberosum	AAO31397.1	AF118844	Lycopersicon esculentum
AAC32853.1	AF083253	Lycopersicon esculentum	BAE58819.1	AB026500	Cucumis sativus
AAE23128.1	AF198390	Lycopersicon esculentum	BAE90552.1	AB031029	Prunus mume
AAE38521.1	AF283536	Citrus x paradisi	BAE90551.1	AB031028	Prunus mume
CA448037.1	X67844	Solanum tuberosum	AAE45346.1	AF159172	Rosa hybrid cultivar
SEQ ID NO. 1011			SEQ ID NO. 1013		
AAC31157.1	AF047477	Brassica oleracea	AGG34797.1	AF243362	Glycine max
AAE41977.1	AF311942	Carica papaya	AAE34798.1	AF243363	Glycine max
AAE94773.1	AF039746	Pisum sativum	AAE34803.1	AF243368	Glycine max
CAE06723.1	AF005829	Pisum sativum	AAE64450.1	AF239928	Euphorbia esula
AAO03598.1	AF098272	Vigna radiata	AAE34801.1	AF243366	Glycine max
BAE37137.1	AB015497	Pasiflora edulis	AAE34804.1	AF243369	Glycine max
BAE37135.1	AB049128	Cucumis melo var. reticulatus	AAE34796.1	AF243361	Glycine max
BAE95818.1	AB026499	Cucumis sativus	AAE34809.1	AF243374	Glycine max
AAE26890.1	AF055894	Phaenopsis sp. 'True Lady'	AAE34807.1	AF243372	Glycine max
AAE372193.1	AF013979	Oryza sativa	AAE34810.1	AF243375	Glycine max
AAE96765.2	AF039921	Nicotiana tabacum	AAE34844.1	AF244701	Zea mays
AAE21777.1	AF051938	Solanum tuberosum	AAE34831.1	AF244688	Zea mays
AAE28893.1	AF124527	Prunus persica	AAE8566.1	AF048978	Glycine max
BAE37136.1	AB015496	Pasiflora edulis	AAE34832.1	AF244689	Zea mays



CAR04511.1	AJ001061	Vitis vinifera	CAC19810.1	AJ292343	Solanum tuberosum
AAAT79857.1	L08188	Ricinus communis	BAH85845.1	AB026545	Hyoscyamus niger
AAAT70777.1	Y09590	Vitis vinifera	AAQ09776.1	L20485	Hyoscyamus niger
BAH19863.1	AB052884	Oryza sativa	CMA45866.1	X64566	Cuphea lanceolata
BAH19862.1	AB052883	Oryza sativa	CMA45793.1	X64463	Brassica napus
CAB52690.1	AJ132225	Lycopersicon esculentum	CAW20114.2	S60064	Brassica napus
BAH85398.1	AF000615	Oryza sativa	CAW74176.1	Y13861	Nicotiana tabacum
BAH52688.1	AJ132223	Lycopersicon esculentum	CAW05879.1	AF003124	Petunia x hybrida
BAH52688.1	AF173655	Beta vulgaris	CAW74177.1	Y13862	Nicotiana tabacum
SEQ ID NO. 1021			CMA58216.1	AF003025	Oryza sativa
CAN96316.1	271997	Medicago sativa	BAH82767.1	U89509	Zea mays
BAH56543.1	077935	Phaseolus vulgaris	CMA64729.1	X95462	Brassica napus
			BAH82766.1	U89510	Hordeum vulgare
SEQ ID NO. 1022			SEQ ID NO. 1026		
AAAG43549.1	AF211531	Nicotiana tabacum	CAB51555.1	AJ242531	Triticum aestivum
AAAG43548.1	AF211530	Nicotiana tabacum	BAH90749.1	AB030956	Oryza sativa
BAH78738.1	AB023482	Oryza sativa	CAB51557.1	AJ242530	Zea mays
CAC12822.1	AJ259252	Nicotiana tabacum	SEQ ID NO. 1027		
AAAT76898.1	AF274033	Atirplex hortensis	AAC63113.1	AF000307	Brassica napus
BAH16083.1	AB036883	Oryza sativa	AAC63111.1	AF000305	Brassica napus
BAB03248.1	AB037183	Oryza sativa	AAC63112.1	AF000306	Brassica napus
AAAC24587.1	AF071893	Prunus ameniaca	AAA33342.2	M84135	Flaveria chloraefolia
AAAT73899.1	AF153803	Oryza sativa	AAA61638.1	U10275	Flaveria bidentis
AAK01089.1	AF298231	Hordeum vulgare	AAA33343.1	M84136	Flaveria chloraefolia
CAB96899.1	AJ251249	Catharantus roseus	AAA87399.1	U10277	Flaveria bidentis
CAB96900.1	AJ251250	Catharantus roseus	SEQ ID NO. 1029		
BAH07321.1	D38123	Nicotiana tabacum	AAC98969.1	AF047428	Oryza sativa
BAH63205.1	AF245119	Mesembryanthemum crystallinum	AAAC98962.1	AF045571	Oryza sativa
AAAG43545.1	AF211527	Nicotiana tabacum	AAAC98962.1	AF133118	Oryza sativa
AAAC62619.1	AF057373	Nicotiana tabacum	BAH08194.1	AF002539	Oryza sativa
BAH99376.1	AF002526	Oryza sativa	BAH96755.1	AF002521	Oryza sativa
SEQ ID NO. 1025			SEQ ID NO. 1031		
AAH33280.1	L20475	Datura stramonium	BAH62642.1	AF243180	Lycopersicon esculentum
AAH33281.1	L20473	Datura stramonium	CMA80963.1	225471	Pisum sativum
CAC34420.1	AJ007364	Solanum tuberosum	AAH010251.1	AF031195	Triticum aestivum
BAH13547.1	D88156	Hyoscyamus niger	CMA64163.1	AF093537	Zea mays
BAH85844.1	AB026544	Hyoscyamus niger	CAH10134.1	AF001293	Cicer arietinum
AAH33282.1	L20474	Datura stramonium			
CAB52307.1	AJ245634	Solanum tuberosum			

[illegible]



AA643027.1	AF232586	Oryza sativa
AA630305.1	AF045770	Oryza sativa
AA633843.1	S77096	Brassica napus
SQ ID NO. 1062		
AA676555.1	Y16953	Sinapis alba
AA658772.1	X83920	Brassica napus
AA653073.1	X92102	Raphanus sativus
AA630378.1	U27107	Brassica napus
AA642937.1	AF084971	Catharanthus roseus
AA68492.1	Z48602	Catharanthus roseus
AA68493.1	Z48603	Nicotiana tabacum
AA68494.1	U46217	Nicotiana tabacum
AA649398.1	U46217	Petroselinum crispum
AA680169.1	U10270	Zea mays
AA640291.1	U42208	Oryza sativa
AA600098.1	L01449	Glycine max
AA658774.1	X83922	Brassica napus
AA658773.1	X83921	Brassica napus
AA614790.1	X3027510	Catharanthus roseus
AA649556.1	U04295	Oryza sativa
AA642938.1	AF084972	Catharanthus roseus
AA642939.1	M28704	Triticum aestivum
AA671768.1	Y10809	Petroselinum crispum
AA62896.1	X74942	Lycopersicon esculentum
AA617770.1	Y10810	Petroselinum crispum
AA610298.1	D64051	Triticum aestivum
AA62897.1	X74943	Lycopersicon esculentum
AA62895.1	X74941	Lycopersicon esculentum
AA62402.1	Y15165	Zea mays
AA617488.1	U07933	Triticum aestivum
AA668429.1	M63999	Triticum aestivum
AA619103.1	U10466	Triticum aestivum
AA61687.1	Y10685	Glycine max
SQ ID NO. 1063		
AA658750.1	X83869	Daucus carota
AA647181.1	S82324	Zea mays
AA612691.1	D84507	Zea mays
AA612692.1	D84508	Zea mays
AA601179.1	AF289237	Zea mays
AA622410.1	D38452	Zea mays

Tradescantia virginiana	AF009337	AAC24961.1
Oryza sativa	AF194413	AAC23900.1
Oryza sativa	AF194414	AAC23901.2
Solanum tuberosum	AF030879	AA67858.1
Oryza sativa	X81394	AA657157.1
Nicotiana tabacum	AF072908	AA625423.1
Zea mays	D85039	AA612715.1
Zea mays	U28376	AA669507.1
Marchantia polymorpha	AB017517	AA61751.1
Marchantia polymorpha	AB017515	AA61749.1
Daucus carota	X56599	AA639936.1
Cucurbita pepo	U90262	AA649984.1
Marchantia polymorpha	AB017516	AA61750.1
Marchantia polymorpha	AB017515	AA61748.1
Mesembryanthemum crystallinum	AF050835	AA617800.1
Glycine max	U59174	AA680693.1
Solanum tuberosum	AF115406	AA613440.1
Ipomoea batatas	D87707	AA613440.2
Zea mays	AB007366	AA617481.1
Fragaria x ananassa	AF035344	AA688537.1
Medicago sativa	X56723	AA65500.1
Zea mays	D27484	AA61682.1
Tortula ruralis	U82087	AA670706.1
Oryza sativa	AF042550	AA616888.1
Oryza sativa	AF000615	AA65396.1
Zea mays	D84408	AA612338.1
Oryza sativa	X81393	AA657156.1
Oryza sativa	AF048691	AA605270.1
Vigna radiata	U08140	AA649405.1
Zea mays	D87042	AA613232.1
Glycine max	U69173	AA680692.1
Dunaliella tertiolecta	AF216527	AA621062.1
Cucumis sativus	AF027885	AA626164.1
Zea mays	L15390	AA633443.1
Chlamydomonas eugametos	Z49233	AA689202.1
Oryza sativa	AC073166	AA646110.1
Oryza sativa	D13436	AA602698.1
Oryza sativa	AF001168	AA609814.1
Arachis hypogaea	U18055	AA646228.1
Tillium longiflorum	U24188	AA649008.1
Glycine max	AF203479	AA619401.1



BA022953.1	AF001551	Oryza sativa	BA032406.1	AE055515	Nicotiana tabacum
BA0494516.1	AF001800	Oryza sativa	CAN58760.1	X83879	Nicotiana tabacum
BA052097.1	AF008885	Nicotiana tabacum	CAN57721.1	X82270	Medicago sativa
BA023542.1	U20948	Ipomoea trifida	AA081420.1	AF247136	Capsicum annuum
BA016628.1	AY007545	Brassica napus	AA0837790.1	AF247136	Ipomoea batatas
BA033915.1	L27821	Oryza sativa	AG040580.1	AF216316	Oryza sativa
BA034509.1	AB041503	Populus nigra	CAB37188.1	AJ224336	Medicago sativa
BA046420.1	AF100771	Hordeum vulgare	AA061238.1	AF241166	Oryza sativa
BA023676.1	AB000970	Brassica rapa	AA040581.1	AF216317	Oryza sativa
BA094517.1	AF001800	Oryza sativa	CAB61889.1	AJ251330	Oryza sativa
BA021132.1	D88193	Brassica rapa	CA073323.1	Y12785	Petroselinum crispum
BA06285.1	D30049	Brassica rapa	CAC13967.1	AJ250311	Oryza sativa
BA04529.2	AF001800	Oryza sativa	CAN56314.1	X79993	Avena sativa
BA061708.1	U93048	Daucus carota	CAN49592.1	X69971	Nicotiana tabacum
CA079955.1	Z18921	Brassica oleracea	CAN58466.1	X83440	Petunia x hybrida
AA011674.1	AF339747	Lophopyrum elongatum	AA001710.1	AF332973	Oryza sativa
AF04396.1	AF131222	Lophopyrum elongatum	AA040579.1	AF216315	Oryza sativa
BA04510.1	AB041504	Populus nigra	CAN57731.1	X82268	Medicago sativa
AA033000.1	N76647	Brassica oleracea	AA028850.1	AF079318	Trifolium aestivum
CA067145.1	X98520	Brassica oleracea	BA074734.1	AB016802	Zea mays
BA074721.1	U59316	Lycopersicon esculentum	AA073257.1	AF154329	Pisum sativum
BA07577.2	D38564	Brassica rapa	BA009600.1	D61377	Nicotiana tabacum
AAA33008.1	M97667	Brassica napus	AA081419.1	AF247135	Capsicum annuum
CAB89179.1	AJ245479	Brassica napus subsp. napus	BA074733.1	AB016801	Zea mays
BA032474	AB032474	Brassica oleracea	CAN405329.1	AJ002314	Nicotiana tabacum
			CAN11861.1	AJ002315	Nicotiana tabacum
			CAN58595.1	AJ224164	Petunia x hybrida
			CAN11862.1	X83620	Petunia x hybrida
			CAN58594.1	AJ224165	Petunia x hybrida
			AA092823.1	X83619	Petunia x hybrida
			BA092214.1	U18365	Brassica napus
			CAN67554.1	AF001278	Oryza sativa
				X99100	Trifolium repens
SEQ ID NO. 1067			SEQ ID NO. 1070		
AA023903.1	AF194416	Oryza sativa	AF071698.1	AF274033	Atriplex hortensis
AA052659.1	AF177392	Oryza sativa	CAC12822.1	AJ299252	Nicotiana tabacum
AA023902.1	AF194415	Oryza sativa	AA024587.1	AF071893	Prunus americana
AA028617.1	AF129087	Oryza sativa	AA023899.1	AF193603	Oryza sativa
CAB61750.1	AJ275316	Cicer arietinum	BA078738.1	AB023462	Oryza sativa
BA057843.1	U96716	Sesquimaella lepidophylla	AA043545.1	AF211527	Nicotiana tabacum
AA05766.1	AF242308	Euphorbia esula			
BA018271.1	AB035141	Chlamydomonas reinhardtii			
CAN58761.1	X93880	Nicotiana tabacum			
CAB47099.1	X66469	Medicago sativa			
BA041548.1	L07042	Medicago sativa			
AA058396.1	U94192	Nicotiana tabacum			
CA050036.1	X70703	Pisum sativum			
AA073236.1	AF153061	Pisum sativum			



AAAF63205.1	AF245119	Mesembryanthemum crystallinum	CAN96874.1	AU27164	Malus x domestica
BA07321.1	D38123	Nicotiana tabacum	CAN05771.1	AU002958	Cicer ariletum
BAE16083.1	AB036883	Oryza sativa	CAN65475.1	X96714	Prunus dulcis
BA03248.1	AF037183	Oryza sativa	CAN34393.1	J04176	Zea mays
CAN96900.1	AJ251250	Catharanthus roseus	CAN6477.1	X96716	Oryza sativa
CAN96999.1	AJ251249	Catharanthus roseus	CAN70538.1	AF017358	Oryza sativa
BA99376.1	AF002526	Oryza sativa	AAF3184.1	AF195863	Gossypium hirsutum
CAC2619.1	AF057373	Nicotiana tabacum	AAZ0395.1	AF334185	Triticum aestivum
AA643548.1	AF211530	Nicotiana tabacum	AAZ6694.1	U18127	Hordeum vulgare
AA643549.1	AF211531	Nicotiana tabacum	AAZ27707.1	AF302788	Triticum aestivum
AAK01089.1	AF298231	Hordeum vulgare	AAZ7559.1	U15153	Gossypium hirsutum
			BA834774.1	S78173	Gossypium hirsutum
			BA85484.1	Z37115	Hordeum vulgare
			AA04683.1	AF171094	Lilium longiflorum
			BA96834.1	M64746	Daucus carota
			CAL63407.1	X92748	Beta vulgaris
			BA870541.1	AF017361	Oryza sativa
			AA33494.1	M57249	Zea mays
			AA391436.1	Z66529	Hordeum vulgare
			AA005812.1	U63993	Hordeum vulgare
			AA070540.1	AF017360	Oryza sativa
			CAA69949.1	Y08691	Oryza sativa
			AA018815.1	U77295	Oryza sativa
			CAA48621.1	X68654	Hordeum vulgare
			SEQ ID NO. 1073		
			AA046106.1	AF096250	Lycopersicon esculentum
			AA010057.1	AF110519	Lycopersicon esculentum
			AA010056.1	AF110518	Lycopersicon esculentum
			AA031141.1	AF305911	Oryza sativa
			AA031142.1	AF305912	Hordeum vulgare
			AA063334.1	AJ005077	Lycopersicon esculentum
			CAA03005.1	AJ029067	Rosa hybrid cultivar
			AA334002.1	M67449	Glycine max
			AA01734.1	AY027437	Arabidopsis thaliana
			CA09580.1	AF298992	Fagus sylvatica
			AA076189.1	AF271206	Rosa hybrid cultivar
			AA076015.1	AF238471	Oryza sativa
			AA043962.1	U78762	Triticum aestivum
			AA061510.1	X89226	Malus x domestica
			AA046415.1	AF100765	Oryza sativa
			SEQ ID NO. 1072		
			AA03945.1	I33904	Brassica oleracea
			AA05372.1	AF093751	Brassica oleracea
			AA073947.1	I33906	Brassica oleracea
			AA04310.1	U22174	Brassica napus
			AA037228.1	U22105	Brassica napus
			AA073946.1	I33905	Brassica oleracea
			AA073948.1	I33907	Brassica oleracea
			AA032995.1	I29767	Brassica oleracea
			AA035185.1	AF195864	Gossypium hirsutum
			AA028533.1	AF329829	Corylus avellana
			AA074624.1	U31766	Oryza sativa
			AA070539.1	AF017359	Oryza sativa
			AA029777.1	AF228333	Gossypium hirsutum
			AA035186.1	AF195865	Gossypium hirsutum
			AA004099.1	AF044204	Gossypium hirsutum
			AA009107.1	AF101038	Brassica napus
			CA050661.1	X71668	Sorghum bicolor
			AA026449.1	AF221501	Prunus avium
			AA060643.1	U66105	Zea mays
			AA080809.1	Z32771	Oryza sativa
			AA034032.1	M58635	Spinacia oleracea
			AA026450.1	AF221502	Malus x domestica
			AA050660.1	X71667	Sorghum bicolor

AAG00510.1	AF285172	Phaseolus vulgaris	CAC10514.1	AJ299019	Samanea saman
BAB39437.1	AF003338	Oryza sativa	CAB54856.1	AJ132686	Zea mays
BAB39434.1	AF003338	Oryza sativa	CAB56175.1	X79779	Solanum tuberosum
AAF78020.1	AF238476	Oryza sativa	CAA71598.1	X10579	Vicia faba
AAF78019.1	AF238475	Oryza sativa	SEQ ID NO. 1077		
AAF68399.1	AF237569	Oryza sativa	ACG31173.1	AF315714	Ipomoea nil
AAF68397.1	AF237567	Oryza sativa	ACG31173.1	AF029984	Lycopersicon esculentum
BA044031.1	AF085165	Hordeum vulgare	CAB89912.1	AF029984	Lycopersicon esculentum
BA04516.1	AF001800	Oryza sativa	CAB89693.1	AJ276591	Pisum sativum
AAF66615.1	AF142596	Nicotiana tabacum	CAB94800.1	AJ289773	Pisum sativum
AAF91323.1	AF244889	Glycine max	CAB70768.1	X09579	Pisum sativum
AAF91324.1	AF244890	Glycine max	CAB94801.1	AJ289774	Pisum sativum
AA625966.1	AF302082	Nicotiana tabacum	BA04422.1	AB040053	Oryza sativa subsp. Japoni-
			CAB89694.1	AJ276592	Pisum sativum
SEQ ID NO. 1075			SEQ ID NO. 1078		
AAF40306.1	AF156667	Vigna radiata	AA01481.1	U51191	Glycine max
AA018193.1	X99937	Spinacia oleracea	AA01482.1	U51192	Glycine max
BA03763.1	DL6247	Nicotiana sylvestris	AA065637.1	LI3654	Lycopersicon esculentum
AAF75791.1	AF271892	Pisum sativum	AA065636.1	LI3653	Lycopersicon esculentum
AA020980.1	AF079782	Zea mays	CAA76374.2	X16776	Spinacia oleracea
BA095704.1	AB042643	Oryza sativa	BA03644.1	D14997	Oryza sativa
BA095705.1	AB042644	Oryza sativa	BA080502.1	Z22920	Nicotiana tabacum
AA048833.1	AC084218	Oryza sativa	BA07664.1	D42065	Nicotiana tabacum
SEQ ID NO. 1076			AA0763024.1	AF244921	Spinacia oleracea
AAF33570.1	AF079872	Nicotiana tabacum	BA07663.1	D42064	Nicotiana tabacum
AAF33669.1	AF079871	Nicotiana tabacum	BA077387.1	AB024437	Nicotiana tabacum
AA033255.1	U65390	Nicotiana tabacum	CAC21389.1	AJ401276	Scutellaria baicalensis
AA03254.1	X96390	Lycopersicon esculentum	AA01483.1	U51193	Zea mays
BA084085.1	AB032074	Nicotiana paniculata	AA01484.1	U51194	Glycine max
AF076832.1	AF207745	Triticum aestivum	CAB62226.1	X90693	Medicago sativa
CAB62555.1	AF249962	Daucus carota	CAB62227.1	X90694	Medicago sativa
CAB68312.1	Y07632	Zea mays	AA041811.1	X36157	Medicago sativa
CAC05488.1	AJ271446	Populus tremula x Populus tremuloides	CAB64413.1	X39493	Lycopersicon esculentum
CAC05489.1	AJ271447	Populus tremula x Populus tremuloides	BA089584.1	AF001073	Oryza sativa
AF039492.1	AF145272	Samanea saman	BA093065.1	AF001081	Oryza sativa
BA096150.1	AF002092	Oryza sativa	BA067737.1	L77080	Vigna angularis
BA096192.1	AF002093	Oryza sativa	AA032676.1	M37637	Stylosanthes humilis
AA016278.1	AF090905	Samanea saman	AAF63027.1	AF244924	Arachis hypogaea
			CAB62225.1	X50692	Spinacia oleracea
					Medicago sativa

CAC21391.1	RAJ401274	Zea mays	AAAF91322.1	AF244888	Glycine max
RAJ37427.1	AF149277	Phaseolus vulgaris	RAK11568.1	AF318492	Lycopersicon hirsutum
CNB94692.1	AJ242742	Ipomoea batatas	RAAO9771.1	U67422	Zea mays
AAAB1810.1	L36156	Medicago sativa	AAF76307.1	AF220603	Lycopersicon pimpinellifol
BAE22307.1	AB027753	Nicotiana tabacum	AAF76314.1	AF220603	Lycopersicon esculentum
BAF65464.2	AF247700	Oryza sativa	BAF7424.1	U59317	Lycopersicon pimpinellifol
BAF92500.1	AF001383	Oryza sativa	BAF92954.1	AF001551	Oryza sativa
ADJ37430.1	AF149280	Phaseolus vulgaris	BAF47422.1	U59318	Lycopersicon esculentum
CNA62615.1	X91232	Mercurialis annua	AAAF91324.1	AF244890	Glycine max
RAAC98519.1	AF007211	Glycine max	SEQ ID NO. 1080		
RAAB97734.1	AF014502	Glycine max	RAAB86850.1	AF031540	Fritillaria agrestis
CMA39486.1	X56011	Triticum aestivum	RAAC84135.1	AF101422	Cichorium intybus
RAA94962.1	RB042103	Apuragus officinalis	BAO02159.1	D12634	Oryza sativa
RAJ37429.2	AF149279	Phaseolus vulgaris	RAAG63515.1	W63704	Oryza sativa
RAAF53026.1	AF244923	Spinacia oleracea	RAAF70265.1	W63704	Oryza sativa
CMA71488.1	Y10462	Spinacia oleracea	RAA33084.1	AF017367	Oryza sativa
RAJ57375.1	ATL45349	Glycine max	RAA33084.1	X35173	Chlamydomonas reinhardtii
CAJ67376.1	Y16778	Spinacia oleracea	CAB16958.1	Z99029	Chlamydomonas reinhardtii
RAH41443.1	D90115	Amorpha fruticosa	CMA79708.1	Z21499	Stellaria longipes
CMA39485.1	X85228	Triticum aestivum	SEQ ID NO. 1081		
SEQ ID NO. 1079			BAO02159.1	D12634	Oryza sativa
RAAG1628.1	AY007545	Brassica napus	RAAG63515.1	W63704	Oryza sativa
RAK21965.1	AY028699	Brassica napus	RAAB86850.1	AF031540	Fritillaria agrestis
RAAG03090.1	RC073405	Oryza sativa	RAAC84135.1	AF101422	Cichorium intybus
BAF94509.1	AB041503	Populus nigra	RAAF70265.1	AF017367	Oryza sativa
BAF94510.1	AB041504	Populus nigra	RAA33084.1	X35173	Chlamydomonas reinhardtii
BAF78764.1	AB023482	Oryza sativa	CAB16958.1	Z99029	Chlamydomonas reinhardtii
RAAC61805.1	U28007	Lycopersicon esculentum	CMA79708.1	Z21499	Stellaria longipes
RAAF43496.1	AF131222	Lophopyrum elongatum	SEQ ID NO. 1082		
RAK11674.1	AF339747	Lophopyrum elongatum	BAO02159.1	D12634	Oryza sativa
RAAF91337.1	AF249318	Glycine max	SAB08188.1	AF002539	Oryza sativa
RAAF91336.1	AF249317	Glycine max	CAJ70815.1	Y09602	Hordeum vulgare
RAAC77894.1	AF023164	Zea mays	CAN59202.1	X78878	Hordeum vulgare
RAAF66615.1	AF142596	Nicotiana tabacum	CAN55478.1	X78877	Hordeum vulgare
CNB51834.1	00069	Oryza sativa	RAA22150.1	AF061282	Sorghum bicolor
RAJ21972.1	AF078082	Phaseolus vulgaris	CAN58992.1	X78875	Hordeum vulgare
RAAC27595.1	AF023165	Zea mays	RAA22150.1	AF061282	Sorghum bicolor
RAH61708.1	U93048	Daucus carota	RAA47408.1	AF242549	Lycopersicon esculentum
CAJ97692.1	Z73295	Catharanthus roseus	RAA22164.1	AF061282	Sorghum bicolor
AAA33915.1	LZ7821	Oryza sativa	BAO04510.1	DL7586	Oryza sativa



CAA08997.1	AJ010093	Brassica napus	AB81662.1	U85246	Oryza sativa
AAF34436.1	AF172282	Oryza sativa	AAAG13983.1	AF297522	Prunus avium
AAF25966.1	AF302082	Nicotiana tabacum	AAAG32409.1	AF230276	Triphysalis versicolor
BAR0638.1	D31737	Nicotiana tabacum	AAAG32921.1	AF184233	Lycopersicon esculentum
AAF76189.1	AF271206	Rosa hybrid cultivar	BAR32733.1	AB049406	Eustoma grandiflorum
BAR4787.1	AF000559	Oryza sativa	AAAG32411.1	AF230278	Triphysalis versicolor
BAR43373.1	AF000391	Oryza sativa	AAAG35902.1	AF230233	Zinnia elegans
AAF66615.1	AF142596	Nicotiana tabacum	BAR38074.1	U30477	Oryza sativa
AAF91322.1	AF244888	Glycine max	AAAG96080.1	AF049353	Nicotiana tabacum
AA021872.1	AF078082	Phaseolus vulgaris	AAAF15750.1	AF202119	Marsilea quadrifolia
CAF61510.1	X59226	Oryza sativa	RA013633.1	AJ2716007	Festuca pratensis
AAF91323.1	AF244889	Glycine max	CAC19183.1	AF059489	Lycopersicon esculentum
AAF91324.1	AF244890	Glycine max	RAF62181.1	AJ231816	Cicer arietinum
AAK13594.1	AF230301	Oryza sativa subsp. japonica	AAK62180.1	AJ247165	Oryza sativa
AAK16409.1	AF320086	Zea mays	AAK46492.1	AJ247162	Oryza sativa
AAK21365.1	AF028659	Brassica napus	BAA88200.1	AJ243340	Lycopersicon esculentum
BAR39437.1	AF003338	Oryza sativa	AAAF32410.1	AF000837	Oryza sativa
AAK11568.1	AF318492	Lycopersicon hirsutum	AAAB37749.1	AF230277	Triphysalis versicolor
SEQ ID NO. 1086		Oryza sativa	CAA04385.1	U30460	Cucumis sativus
BAR85400.1	AF000615		AAAF15751.1	AJ000885	Brassica napus
SEQ ID NO. 1088		Zinnia elegans	RA013632.1	AF202120	Regnellidium diphyllum
AAF35901.1	AF230332	Cicer arietinum	CAA06271.2	AF059488	Lycopersicon esculentum
CAC19184.1	AJ291817	Prunus avium	AAAG63088.1	AJ004997	Lycopersicon esculentum
AAAG13982.1	AF297521	Prunus persica	AAAG60077.1	U82123	Lycopersicon esculentum
BAR19676.1	AB029083	Prunus persica	AAAF62182.1	AF247164	Nicotiana tabacum
AAAC33529.1	U93167	Prunus armeniaca	CAC18802.1	AF289154	Oryza sativa
AAAC33530.1	AF038815	Prunus armeniaca	AAAG96078.1	AF049351	Glycine max
AA047901.1	AF085330	Pinus taeda	AAAG01875.1	AF291659	Nicotiana tabacum
AAAF37746.1	U30382	Cucumis sativus	CAA09105.1	Y07782	Striga asiatica
AAAF21101.1	AF159563	Fraxinus x ananassa	AAAG96079.1	AF049352	Oryza sativa
AAAB40634.1	U64890	Pinus taeda	SEQ ID NO. 1089		Nicotiana tabacum
AAAB40637.1	U64893	Pinus taeda	RA002848.1	AF086839	Populus tremula x Populus
AAH00635.1	U64894	Pinus taeda	transoloides		
CBH43197.1	AJ235068	Lycopersicon esculentum	CBH65329.1	AJ279687	Betula pendula
AAAB40636.1	U64892	Pinus taeda	BAR36555.1	AB011796	Citrus unshiu
AAAG44201.1	AF096776	Lycopersicon esculentum	AAAC77357.1	U79562	Pisum sativum
AAAD49596.1	AF167360	Rumex palustris	AAAB61887.1	AJ250003	Lycopersicon esculentum
AAAG96081.1	AF049354	Nicotiana tabacum	BAR36556.1	AB011799	Citrus unshiu
AAAC39512.1	AF043284	Gossypium hirsutum	BAR16804.1	U68560	Malus x domestica

BAB40808.1	AB058921	Nicotiana suaveolens x	AA37266.1	AF220405	Vitis riparia
Nicotiana tabacum			AA36223.1	S81261	Brassica napus
BAB40809.1	AB058922	Nicotiana suaveolens x	AA36222.1	S81261	Brassica napus
Nicotiana tabacum			AA49266.1	U33885	Brassica napus
RAC32147.1	AF051247	Picea mariana	AA49265.1	U33884	Brassica napus
CAB56223.1	AJ133276	Hordeum vulgare	RA28439.1	AF120092	Nicotiana tabacum
CAB56224.1	AJ133277	Hordeum vulgare			
RAC24568.2	AF055909	Zea mays	SEQ ID NO. 1103		
			BA90508.1	AF001111	Oryza sativa
SEQ ID NO. 1090			BA90507.1	AF001111	Oryza sativa
AA43030.1	U03492	Spinacia oleracea	CA89443.1	Z70524	Spirodelia polyrrhiza
AA40396.1	U60071	Mesembryanthemum crystallinum	BA83352.1	AF000391	Oryza sativa
AA40313.1	D14044	Cucurbita sp.			
BA82143.1	AF022740	Oryza sativa	SEQ ID NO. 1104		
CA463482.1	X92888	Lycopersicon esculentum	AA025300.1	AF088276	Lycopersicon esculentum
RAC32392.1	AF082874	Medicago sativa	CA863704.1	X93301	Oryza sativa
RAC33509.1	U62485	Nicotiana tabacum	AA025225.1	AF088279	Potamogeton crispus
AA403097.1	AF162196	Lactuca sativa	RA024966.1	AF109150	Lycopersicon esculentum
SEQ ID NO. 1091			SEQ ID NO. 1105		
BA03763.1	D16247	Nicotiana sylvestris	AA005983.1	AF049708	Glycine max
AA475791.1	AF271892	Pisum sativum	AAA47360.1	L33912	Zea mays
AA475791.1	AF156667	Vigna radiata	AA005981.1	AF049706	Chloroplast Glycine max
CA468193.1	X99937	Spinacia oleracea	BA11417.1	D78573	Daucus carota
AA020980.1	AF079782	Zea mays	BA11417.1	D78573	Oryza sativa
BA95704.1	AB042543	Oryza sativa	AA47361.1	L33913	Zea mays
BA95705.1	AB042644	Oryza sativa	AA47361.1	L33913	Glycine max
			BA045630.1	AB042521	Oryza sativa
SEQ ID NO. 1094			SEQ ID NO. 1106		
CA06773.1	AJ005931	Brassica napus	RA025928.1	AF260919	Petunia x hybrida
CA06770.1	AJ005928	Brassica napus	RA025927.1	AF260918	Petunia x hybrida
BA24448.1	AB003516	Panax ginseng	AA006068.1	U18348	Phaseolus vulgaris
CA066223.1	AA004523	Lycopersicon esculentum	CA028907.1	U18349	Phaseolus vulgaris
			AA015848.1	AF061107	Zea mays
SEQ ID NO. 1096			CA092300.1	AJ251719	Zea mays
RA014455.1	AF283707	Tulipa gesneriana	CA092319.1	U39860	Oryza sativa
RA014456.1	AF283708	Tulipa gesneriana	CA092319.1	U39860	Petunia x hybrida
RA014454.1	AF283706	Tulipa gesneriana	CA092319.1	U39863	Petunia australiensis
RAC08401.1	AF053564	Mesembryanthemum crystallinum	AA049212.1	U39863	Oryza officinalis
			AA049216.1	U39865	Oryza officinalis
SEQ ID NO. 1102			AA049213.1	U39864	Oryza eichingeri

AAD56411.1	AF185269	<i>Tulipa gesneriana</i>	BAB39155.1	AB048713	<i>Pisum sativum</i>
SEQ ID NO. 1107			BAF13663.1	AF263457	<i>Zea mays</i>
AAB69757.1	U75644	<i>Lycopersicon esculentum</i>	BAA90816.1	AF001168	<i>Oryza sativa</i>
AAC49666.1	U83708	<i>Lycopersicon esculentum</i>	AAC98090.1	AF067400	<i>Zea mays</i>
AAB38796.1	U73203	<i>Nicotiana glutinosa</i>	SEQ ID NO. 1114		
SEQ ID NO. 1109			CAR05249.1	AJ002204	<i>Zea mays</i>
BAA33531.1	D83583	<i>Nicotiana tabacum</i>	CAC03739.1	AJ251568	<i>Zea mays</i>
BAA33796.1	AB010717	<i>Nicotiana tabacum</i>	CAC04001.1	AJ251018	<i>Zea mays</i>
AA659996.1	AY017473	<i>Glycine max</i>	CAC04002.1	AJ251019	<i>Zea mays</i>
BAA23641.1	D50679	<i>Zea mays</i>	SEQ ID NO. 1115		
BAA24584.1	AF071890	<i>Prunus armeniaca</i>	AD22518.1	AF001136	<i>Pinus radiata</i>
CB370137.1	Y08937	<i>Chlamydomonas reinhardtii</i>	SEQ ID NO. 1119		
BAA37456.1	U10419	<i>Phaseolus vulgaris</i>	SEQ ID NO. 1122		
BAA09122.1	D50556	<i>Oryza sativa</i>	CAB61752.1	AJ275318	<i>Cicer arietinum</i>
AACT1727.1	AF065616	<i>Capsicum annuum</i>	CAC14890.1	AJ295156	<i>Paragmites australis</i>
AAK06450.1	W23456	<i>Zea mays</i>	AAB68605.1	U82433	<i>Prunus armeniaca</i>
CAC06095.1	AJ293240	<i>Lotus japonicus</i>	SEQ ID NO. 1124		
AAB50233.1	U90429	<i>Glycine max</i>	AAI16018.1	AF081514	<i>Taxus canadensis</i>
CAA46940.1	X66145	<i>Nicotiana tabacum</i>	SEQ ID NO. 1125		
CAA46942.1	X66147	<i>Nicotiana tabacum</i>	CAC34339.1	AJ308597	<i>Solanum tuberosum</i>
CAA34893.1	X17031	<i>Spinacia oleracea</i>	AAF97863.1	AF175507	<i>Eucalyptus camaldulensis</i>
CMA42690.1	X60093	<i>Betula pendula</i>	CAL12225.1	AJ224926	<i>Solanum tuberosum</i>
CMA46941.1	X66146	<i>Nicotiana tabacum</i>	AAI16279.1	AF099096	<i>Samanea saman</i>
AAAC34042.1	AF082602	<i>Leavenworthia crassa</i>	SEQ ID NO. 1127		
AAC34043.1	AF082603	<i>Leavenworthia uniflora</i>	CAR67728.1	X99348	<i>Vigna radiata</i>
AAC34044.1	AF082604	<i>Leavenworthia crassa</i>	SEQ ID NO. 1133		
AAC34046.1	AF082606	<i>Leavenworthia uniflora</i>	AC36700.1	AF075582	<i>Mesembryanthemum crystallinum</i>
AAC34045.1	AF082605	<i>Leavenworthia stylosa</i>	AA643835.1	AF213455	<i>Zea mays</i>
AAC34047.1	AF082607	<i>Leavenworthia stylosa</i>	AAI17804.1	AF092431	<i>Lotus japonicus</i>
AA96730.1	L23855	<i>Glycine max</i>	AC36698.1	AF075580	<i>Mesembryanthemum crystallinum</i>
AAC34048.1	AF082608	<i>Leavenworthia uniflora</i>	AAI17805.1	AF092432	<i>Lotus japonicus</i>
SEQ ID NO. 1110					
RA614455.1	AF283707	<i>Tulipa gesneriana</i>			
RA614456.1	AF283708	<i>Tulipa gesneriana</i>			
RA614454.1	AF283706	<i>Tulipa gesneriana</i>			
AAC08401.1	AF035364	<i>Mesembryanthemum crystallinum</i>			
SEQ ID NO. 1111					

CRA72341.1	Y11607	Medicago sativa	AAA33945.1	J03919	Glycine max
CAC10359.1	AJ277086	Nicotiana tabacum	AAA33944.1	J03920	Glycine max
CAC10359.1	AJ277087	Nicotiana tabacum	CRA48299.1	X68217	Pisum sativum
CAC09575.1	AJ298987	Fagus sylvatica	CRA48298.1	X68216	Pisum sativum
CAC2628.1	AF075603	Oryza sativa	RAA50278.1	AF169830	Glycine max
CAC3669.1	AF075581	Mesembryanthemum			
RAA11430.1	AF097667	Mesembryanthemum crystallinum	SEQ ID NO. 1164		
CAC90634.1	AJ277744	Fagus sylvatica	BAA31510.1	AB010878	Nicotiana tabacum
CAC39591.1	AF079355	Mesembryanthemum crystallinum	BAA31651.1	X93160	Spinacia oleracea
RAA39332.1	U01960	Zea mays	CRA75149.1	Y14932	Spinacia oleracea
CAC09576.1	AJ298988	Fagus sylvatica	SEQ ID NO. 1167		
			RAA90815.1	AF001168	Oryza sativa
SEQ ID NO. 1141	X79273	Solanum tuberosum	RAA90804.1	AF001168	Oryza sativa
CRA55860.1	X79273		RAA90803.1	AF001168	Oryza sativa
			SEQ ID NO. 1168		
RAA59330.1	M31545	Hordeum vulgare	RAA625965.1	AF302082	Nicotiana tabacum
RAA48936.1	U20260	Glycine max	AAA33915.1	L27821	Oryza sativa
AAA18861.1	L39279	Lycopersicon esculentum	RAA61708.1	U93946	Daucus carota
CRA46787.1	X65974	Nicotiana tabacum	RAA21072.1	AF078082	Phaseolus vulgaris
CRA46786.1	X65973	Nicotiana tabacum	RAA06538.1	D31737	Nicotiana tabacum
AAA18861.1	U03632	Chlamydomonas reinhardtii	RAA66615.1	AF142596	Nicotiana tabacum
AAA18862.1	U03633	Chlamydomonas reinhardtii	RAA09771.1	U67422	Zea mays
			RAA94516.1	AF001800	Oryza sativa
SEQ ID NO. 1153		Pisum sativum	RAA93834.1	U82481	Zea mays
RAA39155.1	AB048713	Oryza sativa	RAA92954.1	AF001551	Oryza sativa
RAA90816.1	AF001168	Zea mays	CRA41878.1	Y18259	Brassica oleracea
RAA33663.1	AF263457	Zea mays	RAA21965.1	AF028699	Brassica napus
RAC98090.1	AF067400	Oryza sativa	RAA94517.1	AF001800	Oryza sativa
RAC98091.1	AF067401	Pisum sativum	CRA73134.1	Y12531	Brassica oleracea
RAA39156.1	AB048714		RAA23542.1	U20948	Ipomoea trifida
			RAA78764.1	AB023482	Oryza sativa
SEQ ID NO. 1154		Phaseolus vulgaris	CRA67145.1	X98520	Brassica oleracea
CRA42942.1	M60391	Nicotiana alata	CRA41879.1	Y18260	Brassica oleracea
AAA49895.1	X70441	Petroselinum crispum	RAA94509.1	AB041503	Populus nigra
RAA98492.1	L36982		CRA73133.1	Y12530	Brassica oleracea
			RAA92936.1	AB032473	Brassica oleracea
			SEQ ID NO. 1170		
SEQ ID NO. 1163		Oryza sativa	RAA68875.1	U93272	Prunus armeniaca
RAA95840.1	AB002070	Pisum sativum			
CRA48297.1	X68215				
CRA49300.1	X68216	Pisum sativum			











CA860054.1	X86101	Hordeum vulgare	AAAF04972.1	AF091458	Oryza sativa
CA863140.1	X32403	Hordeum vulgare	BAAB33457.1	AB007504	Triticum aestivum
CA863167.1	D83862	Hordeum vulgare	BAAB50187.1	U45734	Sorghum bicolor
BAAL1091.1	D70888	Cucumis sativus	ACAC49817.1	U78832	Oryza sativa
CA860055.1	X86102	Hordeum vulgare	AAAF19048.1	AF085868	Oryza sativa
GA641962.1	AF295613	Chilanydomonas reinhardtii	ACAC3170.1	U78948	Malus x domestica
CA802480.1	AF294753	Hordeum vulgare			
GA0294752	AF294752	Hordeum vulgare			
SEQ ID NO. 1202			SEQ ID NO. 1203		
CA809811.1	AF275345	Lycopersicon esculentum	ACAC28780.1	AF306518	Brassica napus
CA863452.1	AF345246	Lycopersicon esculentum	CAAC10555.1	AF379059	Lotus japonicus
CA8622455.1	AF060880	Pisonia batatas	CAAC64475.1	X95098	Lycopersicon esculentum
CA8627151.1	AF346303	Palouinia kawakami	AAAI1397.1	AF118858	Lycopersicon esculentum
BA894005.1	AF008651	Pisonia batatas	ADAI16012.1	AF080541	Nepenthes alata
CA8621250.1	AF335237	Solanum tuberosum	AAAF01774.1	AF188744	Brassica napus
BA811880.1	AF303322	Petunia x hybrida			
CA897349.1	AZ43941	Oryza sativa	SEQ ID NO. 1205		
CA8239335.1	AF295816	Oryza sativa	ACAC28600.1	AF3247134	Limontheos douglasii
BA866690.1	AF144623	Canavalia lineata	ACAC49186.1	U37088	Simmondsia chinensis
AA894006.1	AF008652	Solanum tuberosum	AAAF21178.1	X95093	Brassica napus
CA8621256.1	AF335243	Petunia x hybrida	BAAB96341.1	U50771	Brassica napus
CA8644133.1	AF101420	Cichorium intybus	AAAI1286.1	AF333040	Dunaliella salina
AA890919.1	AF112149	Zea mays	CAAI17746.1	AF291728	Zea mays
BA825246.1	D89671	Ceratopteris richardii	ACAC25109.1	AF054497	Brassica napus
AA890136.1	AF150932	Physcomitrella patens	ACAC25110.1	AF054498	Brassica napus
CA809135.1	AF150931	Physcomitrella patens	ACAC25111.1	AF054499	Brassica rapa
AAAF7579.1	AF075293	Physcomitrella patens	ACAC25112.1	AF054500	Brassica oleracea
CA8621257.1	AF335244	Petunia x hybrida	SEQ ID NO. 1206		
AAAF1434.1	U78890	Oryza sativa	ACAC6346.1	AF195653	Vitis vinifera
BA81865.1	AF026295	Oryza sativa	BAAB28872.1	AB006009	Pyrus pyrifolia
CA866800.1	AJ011675	Oryza sativa	CAAI10270.1	AF343427	Malus x domestica
AAAF18376.1	AF158543	Picea abies	CAAC36740.1	AF090143	Malus x domestica
ADAI10625.1	AF035378	Lolium temulentum	BAAB74546.2	AB000834	Nicotiana tabacum
BA897354.1	AZ249146	Hordeum vulgare	CAAC62187.1	AJ242828	Castanea sativa
CA8621252.1	AF335239	Petunia x hybrida	ACAC63347.1	AF195694	Vitis vinifera
BA818683.1	AB003325	Oryza sativa	CAAC09477.1	AL442113	Oryza sativa
AAAB51377.1	U91964	Medicago sativa	ACAC38064.1	U32440	Prunus avium
BA867968.1	X99654	Betula pendula	BAAB95118.1	U71244	Brassica rapa
ADAI0626.1	AF035379	Lolium temulentum	CAAI10492.1	AJ131731	Pseudotsuga muenzii
CA853782.1	X76188	Nicotiana tabacum	BAAB5017.1	AB037870	Cestrum elegans
			ADAI02259.1	U57787	Avena sativa



CAA43183.1	X60773	Glycine max	AA541524.1	X91079	Medicago sativa
AAK13449.1	AF325917	Arachis hypogaea	CA344690.1	X16470	Phaseolus vulgaris
AG23840.1	AF302807	Sesamum indicum	AA941480.1	X91080	Medicago sativa
CAA44224.1	X62352	Helianthus annuus	CA046202.1	X3004302	Glycine max
ANK13450.1	AF325918	Arachis hypogaea	AA50174.1	U03433	Psidium sativum
CA57994.1	X82677	Hordeum vulgare	BA774616.1	AF024398	Cicer arietinum
AG01171.1	AF288622	Fagopyrum esculentum	AA32050.1	AF307301	Lotus corniculatus
CAA57544.1	X82019	Brassica napus	AA3030542.1	AF308141	Lotus corniculatus
CAA43182.1	X60772	Glycine max	AA3030541.1	AF308140	Lotus corniculatus
CAA57545.1	X82020	Brassica napus			
AA567699.1	J05212	Zea mays	SEQ ID NO. 1215		
AAAB01098.1	AF47099	Daucus carota	AA066347.1	AF195654	Vitis vinifera
AA010240.1	U7019212	Oryza sativa subsp. indica	AA066346.1	AF195653	Vitis vinifera
AA02240.1	U43931	Oryza sativa	BA278872.1	AB006009	Pyrus pyrifolia
CAA55348.1	X78679	Helianthus annuus	BA74546.2	AB000834	Nicotiana tabacum
AA68066.1	U13702	Zea mays	CA102740.1	AF234327	Malus x domestica
CAA64801.1	X95555	Brassica napus	CA310670.1	AF509143	Oryza sativa
AA024547.1	AF117126	Brassica oleracea	CA039477.1	U442113	Oryza sativa
CAA64800.1	X95554	Brassica napus	CA338064.1	U32440	Brassica rapa
CAA61805.1	X95559	Brassica napus	AA895118.1	U71210	Brassica rapa
CAA70173.1	Y08366	Brassica napus	BA905017.1	AB031870	Castanea sativa
			CA104092.1	AB031870	Cestrum elegans
			BA95165.1	AB029918	Pseudotsuga menziesii
			AA002259.1	U57787	Nicotiana tabacum
			AA053368.1	U77657	Avena sativa
			AA055090.1	AF178853	Oryza sativa
			CA009228.1	AF010501	Cicer arietinum
			CA333293.1	X15224	Nicotiana tabacum
			CA333292.1	X15223	Nicotiana tabacum
			CA112791.1	AF003007	Vitis vinifera
			AA822264.1	AF272324	Vitis vinifera
			AA93095.1	J01203	Thaumatococcus daniellii
			SEQ ID NO. 1216		
			BA541137.1	AB060130	Zea mays
			BA520581.1	AB042268	Zea mays
			BA517300.1	AB042260	Zea mays
			BA520580.1	AB042267	Zea mays
			BA520582.1	AB042269	Zea mays
			BA520583.1	AB024291	Zea mays
			SEQ ID NO. 1217		
			BA541137.1	AB060130	Zea mays
			BA520581.1	AB042268	Zea mays
			BA517300.1	AB042260	Zea mays
			BA520580.1	AB042267	Zea mays
			BA520582.1	AB042269	Zea mays
			BA520583.1	AB024291	Zea mays
			SEQ ID NO. 1218		
			BA541137.1	AB060130	Zea mays
			BA520581.1	AB042268	Zea mays
			BA517300.1	AB042260	Zea mays
			BA520580.1	AB042267	Zea mays
			BA520582.1	AB042269	Zea mays
			BA520583.1	AB024291	Zea mays
			SEQ ID NO. 1219		
			BA541137.1	AB060130	Zea mays
			BA520581.1	AB042268	Zea mays
			BA517300.1	AB042260	Zea mays
			BA520580.1	AB042267	Zea mays
			BA520582.1	AB042269	Zea mays
			BA520583.1	AB024291	Zea mays
			SEQ ID NO. 1220		
			BA541137.1	AB060130	Zea mays
			BA520581.1	AB042268	Zea mays
			BA517300.1	AB042260	Zea mays
			BA520580.1	AB042267	Zea mays
			BA520582.1	AB042269	Zea mays
			BA520583.1	AB024291	Zea mays
			SEQ ID NO. 1221		
			BA541137.1	AB060130	Zea mays
			BA520581.1	AB042268	Zea mays
			BA517300.1	AB042260	Zea mays







RAK28809.1	AF310962	Linum usitatissimum	SEQ ID NO. 1247	Petunia x hybrida
RAAD25965.1	AF093638	Linum usitatissimum	BAA21321.1	Petunia x hybrida
RAAD25969.1	AF093642	Linum usitatissimum	BAA21322.1	Petunia x hybrida
RAAD25968.1	AF093641	Linum usitatissimum	BAA19110.1	Petunia x hybrida
RAA31022.1	U27081	Linum usitatissimum	BAA21323.1	Petunia x hybrida
RAAD25972.1	AF093645	Linum usitatissimum	BAA21324.1	Petunia x hybrida
RAAD25971.1	AF093644	Linum usitatissimum	BAA21325.1	Petunia x hybrida
RAAD25973.1	AF093646	Linum usitatissimum	BAA21326.1	Petunia x hybrida
RAAD25967.1	AF093640	Linum usitatissimum	BAA19111.1	Petunia x hybrida
RAAD25970.1	AF093643	Linum usitatissimum	BAA21327.1	Petunia x hybrida
RAAD25976.1	AF093647	Linum usitatissimum	BAA21328.1	Petunia x hybrida
RAAD25975.1	AF093649	Linum usitatissimum	BAA21329.1	Petunia x hybrida
RAAD25978.1	AF093648	Linum usitatissimum	BAA21319.1	Petunia x hybrida
RAA31021.1	U27081	Linum usitatissimum	RAA396070.1	Petunia x hybrida
RAAD25966.1	AF093639	Linum usitatissimum	AAAS3260.1	Brassica rapa
RAAG09852.1	AF175389	Glycine max	RAA19114.1	Brassica rapa
RAAG01052.1	AF175389	Glycine max	RAA05078.1	Petunia x hybrida
RAAG01051.1	AF175384	Glycine max	RAA05079.1	Petunia x hybrida
RAAG09954.1	AF175399	Glycine max	RAA19126.1	Petunia x hybrida
			RAA19113.1	Petunia x hybrida
SEQ ID NO. 1237			SEQ ID NO. 1250	
RAF27919.1	AF220203	Malus x domestica	RAA82375.1	Oryza sativa
RAK19614.1	AF336281	Gossypium hirsutum		
SEQ ID NO. 1238			SEQ ID NO. 1253	
RAAG17476.1	AF106844	Oryza sativa	RAA04864.1	Oryza sativa
RAAC32134.1	AF051233	Picea mariana	RAA05545.1	Oryza sativa
			AAAS1522.1	Oryza sativa
SEQ ID NO. 1239			RAA35777.1	Brassica oleracea var.
RAA11940.1	AB038492	Atriplex gmelini	albolabura	
RAAG3337.1	AB021878	Oryza sativa	RAA25684.1	Brassica rapa
RAH16381.1	AB033990	Ipomoea nil	AAAS3694.1	Brassica napus
RAH16380.1	AB033989	Ipomoea nil	AAAS3694.1	Triticum aestivum
RAK27314.1	AY028416	Citrus x paradisi		
RAK28463.1	AF307944	Zea mays		
SEQ ID NO. 1245				
RAF21982.1	AF115543	Populus tremula x Populus tremuloides		
CAB65355.1	AJ011794	Zea mays		

RAC32111.1	AF051206	Picea mariana	RAC37345.1	L20621	Zea mays
BAR20886.1	BA053294	Oryza sativa	RAC37345.1	AF072448	Ipomoea trifida
CA55396.1	X78822	Chlamydomonas reinhardtii	RAC33343.1	AF072450	Ipomoea trifida
CA94534.1	Z70677	Ricinus communis	AA857737.1	U89270	Tripsacum dactyloides
CA56850.1	X80887	Chlamydomonas reinhardtii	AA856945.1	AF169018	Glycine max
CA05081.1	A2701903	Triticum turgidum subsp. durum	AF04253.1	AF097651	Pisum sativum
RAC49358.1	U35831	Pisum sativum	AA04193.1	AF053638	Pisum sativum
CA53900.1	X76269	Pisum sativum	AA857738.1	U89271	Tripsacum dactyloides
BA13524.1	D87984	Fagopyrum esculentum	AF04194.1	AF053639	Pisum sativum
CA41415.1	X58527	Nicotiana tabacum	AA800109.1	U21801	Lycopersicon esculentum
RAD49233.1	AF159388	Phalaris coarulescens	SEQ ID NO. 1259		
BAR39913.1	AF002912	Oryza sativa	RAF053311		Zahedecchia aethiopica
RAD49230.1	AF159385	Hordeum bulbosum	RAF078466.1	AJ000508	Pisum sativum
RAD49234.1	AF159389	Phalaris coarulescens	CA001432.1	AJ000508	Hordeum vulgare
RAD49232.1	AF159387	Lolium perenne	CA859895.1	AJ238745	Hordeum vulgare
CA35826.1	X51462	Spinacia oleracea	CA8596145.1	AJ238697	Mesembryanthemum crystallinum
CA35827.1	X11803	Spinacia oleracea	BA022194.1	D63425	Spinacia oleracea
CA77847.1	Z11803	Nicotiana tabacum	CA042780.1	X60219	Nicotiana glauca
RAD56954.1	AF186240	Secale cereale	BA016430.1	X6041518	Nicotiana glauca
RAD49231.1	AF159386	Secale cereale	CA075009.1	Y14707	Helianthus annuus
RAD33596.1	AF133127	Hevea brasiliensis	CA075009.1	Y14762	Lycopersicon esculentum
CA53398.1	X78821	Chlamydomonas reinhardtii	CA075009.1	Y14762	Gossypium hirsutum
CA56851.1	X80888	Chlamydomonas reinhardtii	AA859897.1	AF037051	Hordeum vulgare
CA44209.1	X62335	Chlamydomonas reinhardtii	CA859894.1	AJ238744	Helianthus annuus
CA06736.1	A27005841	Oryza sativa	CA074775.1	Y14429	Chlamydomonas reinhardtii
CA06735.1	A27005841	Triticum aestivum	RA066330.1	AF014927	Chlamydomonas sp. W80
RA06735.1	A27005841	Brassica napus	BA083594.1	AF009083	Lycopersicon esculentum
RA06735.1	U59380	Brassica napus	CA075055.1	Y14763	Lycopersicon esculentum
RA06735.1	AF160870	Brassica napus	CA09194.1	AJ010455	Triticum aestivum
RA06735.1	U76831	Brassica napus	CA066331.1	AJ279689	Betula pendula
RA06735.1	X14959	Spinacia oleracea	SEQ ID NO. 1261		
RA06735.1	AF069314	Mesembryanthemum crystallinum	RA018669.1	U11716	Pisum sativum
CA069314	X63537	Pisum sativum	RA025355.1	AF115574	Pisum sativum
CA069314	U35830	Pisum sativum	RA033662.1	M18250	Pisum sativum
CA069314	AF018174	Brassica napus	SEQ ID NO. 1264		
SEQ ID NO. 1255			SEQ ID NO. 1264		
CA52213.1	X74115	Picea abies	AA040396.1	U80071	Mesembryanthemum crystallinum
RAC35342.1	AF072449	Ipomoea trifida	BA003131.1	D14044	Cucurbita sp.
RAC35340.1	AF072447	Ipomoea trifida	BA003131.1	D14044	Spinacia oleracea
CA11153.1	AJ223177	Nicotiana tabacum	AA040303.1	J03492	Oryza sativa
CA11154.1	AJ223178	Nicotiana tabacum	AA082143.1	AF022740	

CAC3482.1	X92888	Lycopersicon esculentum	AAF91324.1	AF244890	Glycine max
CAC32392.1	AF082874	Nicotiana glauca	AAF91323.1	AF244889	Glycine max
CAC33509.1	U62485	Nicotiana glauca	AAAF7424.1	U59317	Lycopersicon pimpinellifol
AAAF03097.1	AF162196	Lactuca sativa	AAAF76307.1	AF220602	Lycopersicon pimpinellifol
			BAF94510.1	AB041504	Populus nigra
			BAF94509.1	AB041503	Populus nigra
			AAAG16628.1	AV007545	Brassica napus
			AAAF76314.1	AF220603	Lycopersicon esculentum
			AAAF76314.1	AF220602	Lycopersicon esculentum
			AAAF1568.1	AF318492	Lycopersicon hirsutum
			AAAF59905.1	AF197946	Glycine max
			BAF78764.1	AB023482	Oryza sativa
			AAAF7422.1	U59318	Lycopersicon esculentum
			SEQ ID NO. 1270		
			AAAG00510.1	AF285172	Phaseolus vulgaris
			CAB51834.1	00069	Oryza sativa
			CAB51834.1	273295	Catharanthus roseus
			AAAF7692.1	AF028699	Brassica napus
			AAAF59905.1	AF197946	Glycine max
			AAAF59906.1	AF197947	Glycine max
			AAAF91324.1	AF244890	Glycine max
			AAAF91322.1	AF244888	Glycine max
			AAAF91323.1	AF244889	Glycine max
			BAF78764.1	AB023482	Oryza sativa
			AAAF1567.1	AF318491	Lycopersicon hirsutum
			BAF74787.1	AF000559	Oryza sativa
			BAF83373.1	AF000391	Oryza sativa
			AAAF76313.1	AF220603	Lycopersicon esculentum
			AAAF7421.1	U59316	Lycopersicon esculentum
			AAAF7421.1	AF053127	Malus x domestica
			BAF94509.1	AB041503	Populus nigra
			AAAF76306.1	AF220602	Lycopersicon pimpinellifolium
			AAAG16628.1	AV007545	Brassica napus
			AAAF7423.1	U59315	Lycopersicon pimpinellifolium
			AAAF48914.1	U02271	Lycopersicon pimpinellifolium
			AAAF1566.1	AF318490	Lycopersicon pimpinellifolium
			BAF94510.1	AB041504	Populus nigra
			AAAG03090.1	AC073405	Oryza sativa
			BAF74724.1	U59317	Lycopersicon pimpinellifolium
			AAAF1569.1	AF318493	Lycopersicon hirsutum
			AAAF1569.1	AF318493	Lycopersicon hirsutum
			AAAF76307.1	AF220602	Lycopersicon pimpinellifolium
			SEQ ID NO. 1269		
			AAAG00510.1	AF285172	Phaseolus vulgaris
			AAAF7692.1	AF028699	Brassica napus
			CAB51834.1	00069	Catharanthus roseus
			AAAF1567.1	AF318491	Oryza sativa
			AAAF76313.1	AF220603	Lycopersicon hirsutum
			AAAF7421.1	U59316	Lycopersicon esculentum
			AAAF1566.1	AF318490	Lycopersicon esculentum
			AAAF7423.1	U59315	Lycopersicon hirsutum
			AAAG03090.1	AC073405	Oryza sativa
			AAAF76306.1	AF220602	Lycopersicon pimpinellifolium
			AAAF48914.1	U02271	Lycopersicon pimpinellifolium
			AAAF09771.1	U57422	Zea mays
			AAAF1569.1	AF318493	Lycopersicon hirsutum
			AAAF59906.1	AF197947	Glycine max
			AAAF1510.1	X89226	Oryza sativa

AAAF34396.1	AF131222	Lophopyrum elongatum	AAAL7409.1	U02607	Solanum tuberosum
AAK11674.1	AF339747	Lophopyrum elongatum	BAB13369.1	AP048531	Peperomia tetragonoloba
AAAF6784.1	AF220603	Lycopersicon esculentum	CNA30142.1	X07130	Solanum tuberosum
AAK11568.1	AF318492	Lycopersicon hirsutum	AAAB67842.1	U60197	Gossypium hirsutum
			CNA01591.1	278202	Persea americana
SEQ ID NO. 1271			CNA45821.1	X64518	Nicotiana tabacum
BBA02826.1	AB023464	Arabis gemmifera	CNA33517.1	X15494	Solanum tuberosum
AAAF69793.1	AF135153	Arabis parishi	ABAB1324.1	U83591	Medicago sativa
AAAF69785.1	AF135145	Arabis lignifera	ABAB1325.1	U83592	Medicago sativa
AAAF69775.1	AF135135	Arabis drummondii	AAAB33756.1	M13968	Phaseolus vulgaris
AAAF69777.1	AF135137	Arabis fecunda	CNA71402.1	X10373	Medicago truncatula
AAAF69783.1	AF135143	Arabis lemmonii	AAAB75196.1	L37876	Pisum sativum
AAAF69772.1	AF135132	Arabis gunnisoniana	AAAB23263.1	S43926	Phaseolus vulgaris
AAAF69780.1	AF135140	Arabis glabra	AAAG23965.1	AF307511	Vigna sesquipedalis
AAAF69778.1	AF135138	Arabis glabra	CNA61278.1	X88800	Vigna unguiculata
AAAF69784.1	AF135144	Arabis lemmonii	AAA80656.1	U30324	Theobroma cacao
AAAF69792.1	AF135152	Arabis parishi			
AAAF69786.1	M05835	Brassica napus	SEQ ID NO. 1272		
AAAF69788.1	AF135146	Arabis lignifera	CAB57457.2	AF249786	Nicotiana tabacum
AAAF69781.1	AF135141	Arabis lyallii	AAAB57668.1	U82974	Citrus sinensis
AAAF69770.1	AF135130	Arabis holboellii	SEQ ID NO. 1273		
AAAF69773.1	AF135133	Arabis blepharophylla	CNA40796.1	X57564	Amoracia rusticana
AAAF69789.1	AF135149	Arabis microphylla	BAA08499.1	D49551	Oryza sativa
AAAF69776.1	AF135136	Arabis fecunda	CNA66037.1	X97351	Populus balsamifera subsp.
AAAF69791.1	AF135151	Arabis microphylla	trichocarpa		
AAAF69787.1	AF135147	Arabis lignifera	BAA84764.1	D84400	Oryza sativa
AAAF69790.1	AF135150	Arabis microphylla	CAB94692.1	AJ242742	Ipomoea batatas
AAAF69782.1	AF135142	Halmolobos perplexa var. perplexa	BAA06335.1	D30653	Populus kitakamiensis
			BAA11853.1	D83225	Populus nigra
AAAF69774.1	AF135134	Arabis blepharophylla	AAAB37430.1	AF149277	Phaseolus vulgaris
CNA45822.1	X64519	Nicotiana tabacum	AAAB1852.1	D83224	Populus nigra
CNA35945.1	X51599	Nicotiana tabacum	CNA66035.1	X97349	Populus balsamifera subsp.
CAC17793.1	AJ301671	Nicotiana sylvestris	trichocarpa		
CNA34813.1	X16939	Nicotiana tabacum	CNA66034.1	X97348	Populus balsamifera subsp.
CNA34812.1	X16938	Nicotiana tabacum	trichocarpa		
AAAB233374.1	S44869	Nicotiana tabacum	BAA07241.1	D38051	Populus kitakamiensis
AAAB34070.1	M15173	Nicotiana tabacum	BAA92500.1	AF001383	Oryza sativa
AAAB18332.1	U02605	Solanum tuberosum	CNA50597.1	X71593	Lycopersicon esculentum
CNA78845.1	Z15140	Lycopersicon esculentum	CNA67121.1	Y19023	Lycopersicon esculentum
AAAL7408.1	U02606	Solanum tuberosum			

CRA66036.1	X97350	Populus balsamifera subsp.	AAA32657.1	M36100	Medicago sativa
trichocarpa			CRA49883.1	U76030	Oryza sativa
ABA47602.1	L07554	Linum usitatissimum	CRA31750.1	X13375	Medicago sativa
CRA62226.1	X90693	Medicago sativa	BRB31157.1	Pisum sativum	Pisum sativum
AAA34108.1	J02979	Nicotiana tabacum	ABA48005.1	M91077	Medicago sativa
CRA62227.1	X90694	Medicago sativa	AAA30002.1	M23312	Sesbania rostrata
RAA06334.1	D30652	Populus kitakamiensis	BA31156.1	AB015720	Pisum sativum
RAA01992.1	D11396	Nicotiana tabacum	CRA04676.1	U026343	Lycopersicon esculentum
RAA43561.1	AF155124	Gossypium hirsutum	RAA07853.1	U50083	Lupinus luteus
RAA22306.1	AF027752	Nicotiana tabacum	CRA37898.1	X53950	Casuarina glauca
RAA07211		Glycine max	BAF70087.1	U94968	Hordeum vulgare
RAA41445.1	D90115	Amoracia rusticana	CRA68462.1	Y00401	Lupinus luteus
RAA97734.1	AF014502	Glycine max	AAA97887.1	U47143	Glycine max
RAA63027.1	AE244924	Spinacia oleracea	RAA44664.1	AF236080	Zea mays
CRA62225.1	X90692	Medicago sativa	CRA49881.1	U76028	Oryza sativa
RAA01877.1	D11102	Populus kitakamiensis	RAA49884.1	U76031	Oryza sativa
RAA63026.1	AF244923	Spinacia oleracea	RAA01183.1	AF291052	Zea mays subsp. parviglumis
BAA14144.1	D90116	Amoracia rusticana	RAA86653.1	U27194	Parasponia andersonii
BAA41810.1	L36156	Medicago sativa	CRA68405.1	Y00296	Trema tomentosa
AAA34050.1	M74103	Nicotiana glauca	RAA03005.1	M23313	Sesbania rostrata
CRA62597.1	X91172	Raphanus sativus	RAA01375.1	AY005818	Zea mays subsp. mays
RAA02554.1	L37790	Stylosanthes humilis	CRA40900.1	X57733	Medicago truncatula
CRA76680.1	Y17192	Cucurbita pepo	CRA38024.1	X54089	Medicago sativa
CRA71492.1	Y10466	Spinacia oleracea	RAA29748.1	AF172172	Medicago sativa
AB042103		Asparagus officinalis	RAA28426.1	AF072715	Trema orientalis
BAA7389.1	AB024439	Scutellaria baicalensis	BAA24088.1	AB009844	Pisum sativum
RAA37428.1	AF149278	Phaseolus vulgaris	CRA90869.1	Z54158	Vicia faba
RAA41811.1	L36157	Medicago sativa	CRA63706.1	AJ131349	Trema virgata
RAA06183.1	M37636	Arachis hypogaea	CRA63709.1	AJ131352	Trema virgata
			CRA90870.1	Z54159	Vicia faba
			CRA63707.1	AJ131350	Trema virgata
			CRA63708.1	AJ131351	Trema virgata
			CRA40899.1	X57732	Medicago truncatula
SFQ ID NO. 1274		Cichorium intybus x Cichorium			
CRA07547.1	AB007507				
endivita					
AAA3018.1	L28826	Casuarina glauca	SFQ ID NO. 1275		
RAA18503.1	U09671	Canavalia lineata	CRA07206.1	AF0278966	Brassica napus
CRA32044.1	X13815	Sesbania rostrata	RAA01600.1	AF016713	Lycopersicon esculentum
AAA31859.1	X13505	Sesbania rostrata	RAA2034.1	AF023472	Hordeum vulgare
CRA32043.1	X13814	Sesbania rostrata	RAA20002.1	AF213936	Prunus dulcis
RAA49882.1	Y76029	Oryza sativa	RAA07875.1	AF140606	Oryza sativa
CRA32492.1	X14311	Medicago sativa	BAF19757.1	AB052785	Glycine max
BA331155.1	AB015719	Pisum sativum			



CA10372.1	AT131455	Plastid Solanum demissum	SEQ ID NO. 1289	ORYZA SATIVA	ORYZA SATIVA
CMS0750.1	XT1952	Capsicum annuum	BR494228.1	AP001633	ORYZA SATIVA
			BR494224.1	AP001633	ORYZA SATIVA
			BR494236.1	AP001633	ORYZA SATIVA
			BR494219.1	AP001633	ORYZA SATIVA
			BR494215.1	AP001633	ORYZA SATIVA
			AA049181.1	U39289	BRASSICA NAPUS
			AA049182.1	U39319	BRASSICA NAPUS
			BR4921153.1	AP002899	ORYZA SATIVA
			SEQ ID NO. 1290	GLYCINE MAX	GLYCINE MAX
			SEQ CA49375.1	U43839	PISUM SATIVUM
			CAC24490.1	AJ7305033	GLYCINE MAX
			CA049374.1	U43838	GLYCINE MAX
			CA049376.1	U43840	GLYCINE MAX
			SEQ ID NO. 1291	Nicotiana tabacum	Nicotiana tabacum
			AR74586.1	AF215852	Spinacia oleracea
			AR74585.1	AF215851	Solanum tuberosum
			AR74587.1	AF215853	Zeaa mays
			AR74588.1	AF215854	Apium graveolens var. duice
			CA043998.1	AF215837	Chlorella kessleri
			CA046813.1	Y07520	Chlorella kessleri
			CA053192.1	X75440	Chlorella kessleri
			CA052689.1	AJ132224	Lycopersicon esculentum
			CA039036.1	X55349	Chlorella kessleri
			CA047324.1	X66856	Nicotiana tabacum
			CA049419.1	AJ010942	Lycopersicon esculentum
			AR07812.1	Z93775	Vicia faba
			BR119864.1	AB052885	Rattus communis
			AR079761.1	L08196	Medicago truncatula
			AN056594.1	U38651	Vitis vinifera
			CA045511.1	AJ001061	Vitis vinifera
			CA047077.1	Y09590	Picea abies
			CA060679.1	Z83829	Rattus communis
			AR079857.1	L06188	Rattus communis
			BR119863.1	AB052884	Oriza sativa
			BR119862.1	AB052883	Oriza sativa
			CA052688.1	AJ132223	Lycopersicon esculentum
			BR485398.1	AP000615	Oriza sativa
			SEQ ID NO. 1288	ORYZA SATIVA	ORYZA SATIVA
			AB02693.1	AF004947	ORYZA SATIVA
			CA073067.1	Y12464	Sorghum bicolor
			CA073068.1	Y12465	Sorghum bicolor
			AF141378	AF141378	Zeaa mays
			BR483688.1	AB011967	Oriza sativa
			BR483675.1	AB011570	Trifolium aestivum
			BR483689.1	AB011968	Oriza sativa
			BR483628.1	AF002482	Oriza sativa
			BR485649.1	AF26602	Nicotiana tabacum
			AF128443	AF128443	GLYCINE MAX
			CA071142.1	Y10036	Cucumis sativus
			CA065244.1	X95997	Solanum tuberosum
			CA057898.1	X82548	Solanum tuberosum
			CA0599329.1	AF062479	Oriza sativa
			CA054057.1	U55768	Oriza sativa
			CA070813.1	AF007990	Hordeum vulgare
			CA046556.1	X65606	Hordeum vulgare
			CA046554.1	X65604	Hordeum vulgare
			CA046555.1	X65604	Hordeum vulgare
			RA0020239.1	U73938	Nicotiana tabacum
			BR113608.1	D98399	Oriza sativa
			RA060195.1	AC084763	Oriza sativa
			RA119573.1	AB002109	Oriza sativa
			BR488962.1	Z38855	GLYCINE MAX
			CA089202.1	Z49233	Chlamydomonas eugametos
			CA089208.1	Z49233	Trifolium aestivum
			AN058348.1	U29095	Nicotiana tabacum
			CA000240.1	U73939	Cratogeomys plantagineum
			CA0006503.1	AJ0005373	Cratogeomys plantagineum
			AF186020	AF186020	Vicia faba
			CA0596325.1	M94762	Trifolium aestivum
			CA081443.1	Z26846	Mesembryanthemum crystallinum
			AA071062.1	AF216527	Dunaliella tertiolecta







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RAE21001.1	AB054061	Brassica rapa	SEQ ID NO. 1315	BAH85398.1	AP000615	Oryza sativa
BAH78764.1	AB023482	Oryza sativa	BAH74566.1	AF215852	Nicotiana tabacum	
BAH07576.1	D38563	Brassica rapa	AAH43998.1	AF215837	Apium graveolens var. dulc	
AAH47422.1	U59318	Lycopersicon esculentum	AAH74567.1	AF215853	Solanum tuberosum	
RAA21132.1	D88193	Brassica rapa	AAH74568.1	AF215854	Zea mays	
SEQ ID NO. 1308			AAH74565.1	AF215851	Spinacia oleracea	
RAA20482.1	D85610	Spinacia oleracea	CAA53192.1	X75440	Chlorella kessleri	
AAH50011.1	U85494	Zea mays	CAA68813.1	X70520	Chlorella kessleri	
AAH50021.1	U85495	Zea mays	CAA806079.1	X28329	Picea abies	
BAH7218.1	AB026197	Lithospermum erythrorhizon	CAA39036.1	X55349	Chlorella kessleri	
SEQ ID NO. 1311			CAA47324.1	X66856	Nicotiana tabacum	
RAG41777.1	AF212991	Cucurbita maxima	CAH07812.1	X93775	Vicia faba	
RAH11616.1	AF326277	Hordeum vulgare	AAH06594.1	U38651	Medicago truncatula	
AAH00946.1	AF318211	Taxus cuspidata	RAH79761.1	L08196	Ricinus communis	
RAH09659.1	U74319	Sorghum bicolor	CAH52689.1	AF132224	Lycopersicon esculentum	
AAH17732.1	L19074	Catharanthus roseus	CAH09419.1	AF101042	Lycopersicon esculentum	
CAH56503.1	AJ238612	Catharanthus roseus	AAH50504.1	AF173655	Beta vulgaris	
RAH1070.1	U54770	Lycopersicon esculentum	RAH19863.1	AB052884	Oryza sativa	
CAH41490.1	AJ238439	Cicer arietinum	CAH70777.1	I09590	Vitis vinifera	
RAH44150.1	AF124815	Mentha spicata	CAA04511.1	AB001061	Vitis vinifera	
BAH74465.1	AB022732	Glycyrrhiza echinata	RAH19864.1	AB052885	Oryza sativa	
RAH22422.1	AB001379	Glycyrrhiza echinata	CAH52690.1	AJ132225	Lycopersicon esculentum	
CAH10067.1	AB0112581	Cicer arietinum	RAH19862.1	AB052883	Oryza sativa	
BAH40322.1	AB036772	Triticum aestivum	CAH52688.1	AF132223	Lycopersicon esculentum	
CAH43505.1	AJ239051	Cicer arietinum	SEQ ID NO. 1316			
CAH56742.1	AJ249800	Cicer arietinum	CAH48915.1	X69165	Solanum tuberosum	
AAH69209.1	AF279252	Vigna radiata	AAH45391.1	AF167416	Apium graveolens	
CAH36364.1	AB025016	Lotus japonicus	AAH45390.1	AF167415	Apium graveolens	
CAH04116.1	AJ000477	Helianthus tuberosus	AAH99332.1	AF063400	Apium graveolens	
CAH04117.1	AJ000478	Helianthus tuberosus	CAH65765.1	AF242307	Euphorbia esula	
AAH34534.1	AF195813	Lupinus albus	CAH57727.1	X82276	Nicotiana tabacum	
CAH33941.1	X23875	Mentha x piperita	CAH53390.1	X75764	Plantago major	
RAH34533.1	AF195812	Plum sativum	CAC19689.1	AJ303199	Daucus carota	
AAH45142.1	AF195818	Glycine max	RAH8458.1	AB036758	Daucus carota	
SEQ ID NO. 1313			CAH83436.1	X31561	Ricinus communis	
AAH01804.1	AF026480	Dianthus caryophyllus	AAH04294.1	AF191024	Asarina barclatana	
AAH07724.1	U55867	Ipomoea nil	CAH76369.1	X16768	Daucus carota	
			CAH07811.1	X93774	Vicia faba	
			AAH53000.1	U64967	Beta vulgaris	

CBA47604.1	X67125	Spinacia oleracea	CBA62150.1	X90560	Physcomitrella patens
AD401024.1	X1809922	Pisum sativum	BA945696.1	AB041711	Chara corallina
CBA36730.1	X38350	Beta vulgaris	BA946536.1	AB044286	Chara corallina
AD404295.1	AF191025	Alonsoa meridionalis	BA946597.1	AB041712	Chara corallina
AD364610.1	AF194981	Nicotiana tabacum	BA87825.1	AP000815	Oryza sativa
CBA59113.1	X84379	Plantago major	BA61980.1	X8890	Bidens pilosa
CBA57126.1	X82275	Lycopersicon esculentum	AA19571.1	U10150	Brassica napus
CBA76368.1	X16767	Daucus carota	AA87347.1	M88307	Brassica juncea
CBA76367.1	X16766	Daucus carota	CA47411.1	X13784	Mougetia scalaris
CAC19688.1	X303198	Daucus carota	AA92677.1	U13736	Pisum sativum
CAC12256.1	AJ224961	Ricinus communis	AA92677.1	U13736	Pisum sativum
AD55269.1	AF182445	Vitis vinifera	CA935083.1	M20729	Chlamydomonas reinhardtii
AA909270.1	AF176950	Lycopersicon esculentum	AF73157.1	AF150059	Castanea sativa
AAG25923.1	AF237780	Solanum tuberosum	CA934238.1	X13974	Brassica napus
CBB75881.1	AF272308	Hordeum vulgare	CA934237.1	L20691	Vigna radiata
CRC33492.1	AJ310643	Ricinus communis	CA934597.1	U49105	Vigna radiata
CBB75882.1	AJ272309	Hordeum vulgare	CA93586.1	U49104	Triticum aestivum
AF90181.1	AJ260050	Oryza sativa subsp. indica	CA93585.1	U49103	Triticum aestivum
BAA40701.1	D87819	Oryza sativa	CA93584.1	U48693	Triticum aestivum
BA83501.1	AB018046	Zea mays	CA93584.1	U48689	Triticum aestivum
AD45932.1	AF168771	Betula pendula	CA93579.1	U48688	Triticum aestivum
AAAG12987.1	AF166498	Lycopersicon esculentum	CA93578.1	U48242	Triticum aestivum
BAA76434.1	AB025006	Cicer arietinum	AB36130.1	S81594	Vigna radiata
SEQ ID NO. 1319			AA92681.1	U13862	Pisum sativum
AAAB65777.1	U97522	Vitis vinifera	CA93706.1	M80836	Petunia x hybrida
AAAB65776.1	U97521	Vitis vinifera	CA93705.1	M80831	Petunia x hybrida
CAC17793.1	AJ301671	Nicotiana sylvestris	CA948287.1	X12827	Oryza sativa
AA34070.1	M15173	Nicotiana tabacum	CA66150.1	X65016	Oryza sativa
CA30142.1	X07130	Solanum tuberosum	CA93664.1	X52398	Medicago sativa
CBA53626.1	X76041	Triticum aestivum	CA93143.1	X60738	Malus x domestica
SEQ ID NO. 1320			CBA78301.1	X12839	Lilium longiflorum
CA11219.1	AJ232381	Manihot esculenta	AB669399.1	U97936	Helianthus annuus
CAC49184.1	U04002	Hevea brasiliensis	CA842423.1	X57951	Daucus carota
AD23334.1	Z29091	Manihot esculenta	AM32938.1	M27503	Hordeum vulgare
CA11428.1	AJ233506	Manihot esculenta	BA88540.1	AP000969	Oryza sativa
SEQ ID NO. 1322			AD7432.1	AF295637	Elaeis guineensis
AAK11255.1	AF329729	Nicotiana tabacum	AG11418.1	AF292108	Prunus avium
AD10245.1	AF030033	Phaseolus vulgaris	AC36059.1	AF042840	Oryza sativa
SEQ ID NO. 1324					

AAPE1440.1	AF138264	Ipomoea batatas	Ipomoea batatas	AAEL4577.1	U72396	Lycopersicon esculentum
AAPE1442.1	AF138266	Ipomoea batatas	Ipomoea batatas	CAA65020.1	X95716	Petroselinum crispum
AAPE1441.1	AF138265	Ipomoea batatas	Ipomoea batatas	CAAB39336.1	M99430	Ipomoea nil
AAAD29084.1	AF082181	Solanum melongena	Solanum melongena	CAAB3670.1	K133901	Pisum sativum
AAK27969.1	AF242373	Ipomoea batatas	Ipomoea batatas	AAAD44409.1	AF159562	Prunus dulcis
CAAO8906.1	AJ000978	Cicer arietinum	Cicer arietinum	CAAB67206.1	X98617	Medicago sativa
CAAT78403.1	Z14028	Lycopersicon esculentum	Lycopersicon esculentum	CAAC56312.1	AF090115	Lycopersicon esculentum
CBAB17075.1	Z99953	Phaseolus vulgaris	Phaseolus vulgaris	CAAC38012.1	X54075	Zea mays
BAA32495.1	AB038598	Vigna mungo	Vigna mungo	CAAB38013.1	X54076	Zea mays
ABAB67878.1	U59465	Vicia faba	Vicia faba	CAA41218.1	X58279	Triticum aestivum
CAAB22995.1	Z30338	Vicia sativa	Vicia sativa	AAE26481.1	S59777	Zea mays
BAA08244.1	D45402	Zea mays	Zea mays	ABAB01561.1	L47717	Picea glauca
CBAB17077.1	Z99955	Phaseolus vulgaris	Phaseolus vulgaris	AAAB39335.1	M99429	Ipomoea nil
CBAB16316.1	Z99172	Vicia sativa	Vicia sativa	CAAB01562.1	L47740	Picea glauca
CAAB3673.1	Z32795	Glycine max	Glycine max	CAAB67726.1	X99346	Picea abies
CAAB33397.1	AJ245868	Medicago sativa	Medicago sativa	AAAD09184.1	AF089845	Funaria hygrometrica
ABAB22937.1	AF007215	Lavatera thuringiaca	Lavatera thuringiaca	BAAD04841.1	D21817	Lilium longiflorum
CAAB57675.1	X82185	Zea mays	Zea mays	BAAD04842.1	D21818	Lilium longiflorum
BAB96501.1	AB032168	Nicotiana tabacum	Nicotiana tabacum	BAAD09185.1	AF089846	Funaria hygrometrica
CBAB17076.1	Z99954	Phaseolus vulgaris	Phaseolus vulgaris	BAAD04840.1	D21815	Lilium longiflorum
ABAB68374.1	U52370	Phaseolus vulgaris	Phaseolus vulgaris	CAAB63570.1	X92983	Pseudotsuga menziesii
CAAB12118.1	AJ224766	Phaseolus vulgaris	Phaseolus vulgaris	CAAB63571.1	X92984	Pseudotsuga menziesii
AAAD48496.1	AF172856	Lycopersicon esculentum	Lycopersicon esculentum	AAAD30452.1	AF123255	Lycopersicon esculentum
CBAB17074.1	Z99952	Phaseolus vulgaris	Phaseolus vulgaris	AAAD0178.1	AF087640	Funaria hygrometrica
CAAD5894.1	AJ003137	Lycopersicon esculentum	Lycopersicon esculentum	ABAB63311.1	U46545	Helianthus annuus
AAAD53012.1	AF098949	Brassica napus	Brassica napus	CAAB39603.1	X56138	Lycopersicon esculentum
CAAB53515.1	AJ245924	Solanum tuberosum	Solanum tuberosum	AAAC39360.1	U63631	Fragaria x ananassa
CAAB8629.1	Z48736	Lycopersicon esculentum	Lycopersicon esculentum	AAAC39361.1	M33899	Pisum sativum
AAAB70820.2	AF019145	Pseudotsuga menziesii	Pseudotsuga menziesii	AAAC39362.1	AF123256	Lycopersicon esculentum
CAAB70820.2	AF019145	Nicotiana tabacum	Nicotiana tabacum	AAAD30453.1	AF123257	Lycopersicon esculentum
CAAB16317.1	Z99173	Ipomoea batatas	Ipomoea batatas	CAAB41547.1	X58711	Medicago sativa
AAAB27968.1	AF242372	Zea mays	Zea mays	CAAB31785.1	X13431	Triticum aestivum
BAAB8898.1	AB020961	Brassica napus	Brassica napus	CAAB39856.1	U81385	Oryza sativa
AAAD53011.1	AF089848	Brassica napus	Brassica napus	CAAB41546.1	X58710	Medicago sativa
AAAT79915.1	U17135	Dianthus caryophyllus	Dianthus caryophyllus	CAAB63901.1	X94191	Pennisetum glaucum
ABAB8263.1	AF019147	Zea mays	Zea mays	AAAB3910.1	M80939	Oryza sativa
ABAB97142.1	U93166	Prunus armeniaca	Prunus armeniaca	CAAB3909.1	M80938	Oryza sativa
CAAC35211.1	U12637	Hemerocallis hybrid cultivar	Hemerocallis hybrid cultivar	CAAB43210.1	X50820	Oryza sativa
				CAAB3097.1	U21723	Glycine max
				ABAB78394.1	U83671	Oryza sativa
				CAAB78392.1	U83669	Oryza sativa

SEQ ID NO. 1325

CAAB2653.1 Z29554

AD09182.1	AF098843	Funaria hygrometrica	AD030453.1	AF123256	Lycopersicon esculentum
SPQ ID NO. 1326			CAR63571.1	X52984	Pseudotsuga menziesii
CAR08908.1	AF022217	Brassica rapa	CAR1785.1	XL3431	Triticum aestivum
AD090880	AJ009880	Nicotiana tabacum	CAR1546.1	X58710	Medicago sativa
AD49336.1	AF166277	Medicago sativa	SEQ ID NO. 1327		
CAR41547.1	X58711	Quercus suber	AD030452.1	X86222	Pisum sativum
CAR36910.1	AJ000691	Fragaria x ananassa	BA32547.1	AB017134	Lycopersicon esculentum
CAR39360.1	U63631	Cuscuta japonica	CAR3338.1	X15333	Chenopodium rubrum
BA33062.1	AB017273	Glycine max	AA03096.1	U21722	Glycine max
AD03893.1	M11318	Daucus carota	AA03279.1	AF035460	Zea mays
CAR37847.1	X53851	Papaver somniferum	AD03604.1	AF104107	Triticum aestivum
AA361632.1	U08601	Glycine max	AA03157.1	L47741	Picea glauca
AA333975.1	M11395	Pisum sativum	AD03605.1	AF104108	Triticum aestivum
AA333672.1	M33899	Helianthus annuus	CAR38037.1	X54103	Platid Petunia x hybrida
CB06331.1	U46545	Helianthus annuus	AA019022.1	AF197942	Funaria hygrometrica
CB06844.1	Z95153	Helianthus annuus	BA049626.1	U59917	Lycopersicon esculentum
CB42222.1	X59701	Helianthus annuus	BA07023.1	U66300	Chloroplast Lycopersicon
CB25578.1	X01104	Glycine max	esculentum		
CB37848.1	X53852	Daucus carota	BA29064.1	D88584	Nicotiana tabacum
AA333074.1	M11317	Glycine max	AA019021.1	AF197941	Funaria hygrometrica
CB55634.2	A0237596	Helianthus annuus	BA078385.1	AE020973	Oryza sativa
AA33910.1	M08939	Oryza sativa	CAR41219.1	X58280	Triticum aestivum
AA333909.1	M08938	Oryza sativa	AC036315.1	AF037657	Triticum aestivum
AA43210.1	X50820	Oryza sativa	AC036316.1	AF037658	Triticum aestivum
AA078392.1	U83669	Oryza sativa	AC036314.1	AF037656	Triticum aestivum
AA063310.1	U46544	Helianthus annuus	CAR47745.1	X67328	Triticum aestivum
AA039856.1	U81385	Oryza sativa	AC036317.1	AF037659	Triticum aestivum
AD030454.1	AF123257	Lycopersicon esculentum	AA033477.1	L28712	Zea mays
BA02160.1	D12635	Oryza sativa	BA029066.1	AB006043	Nicotiana sylvestris
AA036303.1	X94193	Pennisetum glaucum	BA29067.1	AB006044	Nicotiana tomentosiformis
CAR37864.1	X53870	Chenopodium rubrum	BA029065.1	AB006041	Nicotiana tabacum
AD030452.1	AF123255	Lycopersicon esculentum	AC031570.1	AF019144	Agrostis stolonifera var.
CAR46641.1	X65725	Zea mays	palustris		
AA036302.1	X94192	Pennisetum glaucum	AD030452.1	AF123255	Lycopersicon esculentum
AA036301.1	X94191	Pennisetum glaucum	CAR39603.1	X56138	Lycopersicon esculentum
CA0363570.1	X92983	Pseudotsuga menziesii	AD030453.1	AF123256	Lycopersicon esculentum
AC078393.1	U83670	Oryza sativa	AD030454.1	AF123257	Lycopersicon esculentum
CA036360.1	X56138	Lycopersicon esculentum	AD049336.1	AF166277	Nicotiana tabacum
AC078394.1	U93671	Oryza sativa	BA034133.1	AF161179	Malus x domestica
AA033671.1	M33900	Pisum sativum	AC039360.1	U63631	Fragaria x ananassa

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BR97124.1	AB016266	Nicotiana sylvestris	CNA72133.1	Y11268	Lycopersicon esculentum
BR97122.1	AB016264	Nicotiana sylvestris	CNA70737.1	X87323	Capsicum annuum
BR97121.1	D38123	Nicotiana tabacum	CAR78504.1	U34754	Phaseolus vulgaris
BR97068.1	AB035270	Matricaria chamomilla	AAA02563.1	M57400	Phaseolus vulgaris
CAC62619.1	AF057373	Nicotiana tabacum	CNA65826.1	X97188	Capsicum annuum
RAD00708.1	U91857	Nicotiana tabacum	AF098292	AF098292	Lycopersicon esculentum
BR97123.1	AB016265	Sytosanches hamata	AAA69908.1	U13054	Lycopersicon esculentum
BR97123.1	AB016265	Nicotiana sylvestris	CBA43938.1	AF006349	Lycopersicon esculentum
BR976734.1	AB024575	Nicotiana tabacum	BA96207.1	AF002094	Fragaria x ananassa
AF05606.1	AF190770	Oryza sativa	BA96209.1	AF002094	Oryza sativa
AB037183	AB037183	Oryza sativa	CBA51903.1	AJ242807	Oryza sativa
SEQ ID NO. 1352			BA94257.1	U78526	Brassica napus
ANC24835.1	AF061870	Helianthus annuus	RAC49704.1	U8040769	Hordeum vulgare
SEQ ID NO. 1353			AA220082.1	U00730	Lycopersicon esculentum
CAR75575.1	Y15293	Medicago truncatula	CBA11301.1	AJ223386	Glycine max
BA985440.1	AF000616	Oryza sativa	CBA11302.1	AJ223387	Fragaria x ananassa
CBA63493.1	AJ245900	Oryza sativa	BA211111.1	D84417	Fragaria x ananassa
BA985424.2	AF000616	Oryza sativa	CNA65598.1	X96854	Gossypium hirsutum
BA985439.1	AF000616	Oryza sativa	SEQ ID NO. 1355		Prunus persica
BA906641.1	AF001129	Oryza sativa	CMA64798.1	X95552	Cucumis melo
SEQ ID NO. 1354			CMA57285.1	X81629	Brassica oleracea
AAA80495.1	U20590	Lycopersicon esculentum	AAA32981.1	A27864	Brassica napus
BA939482.1	AB049199	Populus alba	CMA57284.1	X81628	Brassica oleracea
BA985150.1	AB032830	Pinus radiata	BAF70883.1	U19856	Pearlgronium x hortorum
AA212684.1	U76725	Pinus radiata	BAF36884.1	AF129074	Prunus persica
AA262241.1	AF077339	Lycopersicon esculentum	CNA90904.1	Z54199	Lycopersicon esculentum
CNA65828.1	X97190	Capsicum annuum	CNA71738.1	Y10749	Betula pendula
CBA59900.1	AJ010950	Capsicum annuum	BA211541.1	AB003514	Actinidia deliciosa
BA932662.1	AB055886	Atriplex lentiformis	CAR67216.1	X98627	Malus x domestica
BA977239.1	AB025796	Populus alba	CNA04895.1	AJ001646	Malus x domestica
BA939483.1	AB049200	Pinus radiata	CAC36461.1	AF030859	Malus x domestica
AA212685.1	U76756	Pinus radiata	CAC37381.1	I21976	Petunia x hybrida
CAC65597.1	X96853	Prunus persica	CAR474328.1	Y14005	Malus x domestica
CNA65600.1	X96856	Prunus persica	CMA64799.1	X95553	Cucumis melo
RAC95009.1	AF074923	Fragaria x ananassa	BAF70884.1	U67861	Pearlgronium x hortorum
CBA43937.1	AJ006348	Fragaria x ananassa	BA940301.1	D67038	Pyrus pyrifolia
BA969009.1	U13055	Lycopersicon esculentum	AF015787	AF015787	Malus x domestica
ANA66135.1	I41046	Pinus sativum	BA079877.1	U07953	Pearlgronium x hortorum
CNA65827.1	X97186	Capsicum annuum	RAC67233.1	AF033582	Cucumis sativus
			AA248222.1	U06047	Vigna radiata

AAA33273.1	I35152	Dianthus caryophyllus	BAA33554.1	AP000399	Oryza sativa
AAA41212.1	X58273	Lycopersicon esculentum	CAA35192.1	X75440	Chlorella kessleri
BAA34924.1	AB013101	Lycopersicon esculentum	CAH69813.1	X07520	Chlorella kessleri
BAF65472.1	AF252628	Phyllotachys edulis	CAH39036.1	X55349	Chlorella kessleri
BBS2502.1	Y10034	Rumex palustris	BAB19862.1	AB052883	Oryza sativa
CAW1140.1	Y10034	Lycopersicon esculentum	CAH52688.1	AJ132223	Lycopersicon esculentum
CAH68538.1	Y00478	Helianthus annuus	AA055054.1	AJ173655	Beta vulgaris
AAAB71421.1	L29405	Helianthus annuus	CAH52690.1	AJ132225	Lycopersicon esculentum
CAH39808.1	U68215	Carica papaya	CAH43998.1	AF215837	Apium graveolens var. dulce
CAH58232.1	X83229	Nicotiana tabacum	BAF14568.1	AF215854	Zea mays
CAH86468.1	Z46349	Nicotiana tabacum	AAU74567.1	AF215853	Solanum tuberosum
AAA99793.1	U54566	Nicotiana glauca	AAU74566.1	AF215852	Nicotiana glauca
CAH33697.1	L21978	Petunia x hybrida	AAU74565.1	AF215851	Spinacia oleracea
AAAF64528.1	L21978	Carica papaya	CAH7424.1	AF149282	Phaseolus vulgaris
AAA33644.1	N98357	Plum sativum	AA045934.1	AF168773	Betula pendula
AAA99792.1	U54565	Nicotiana glauca	SEO ID NO. 1368		
ABAB7368.1	AF041479	Rumex palustris	BAF20002.1	AF213936	Prunus dulcis
BAA33378.1	B8006807	Cucumis sativus	AA001600.1	AF016713	Lycopersicon esculentum
BA050571.1	U62764	Nicotiana glauca	CA032034.1	AF023472	Hordeum vulgare
CAH59749.1	X5747	Oryza sativa	AAU07875.1	AF140606	Oryza sativa
BAA06526.1	D31727	Cucumis melo	CAC07206.1	AJ278966	Brassica napus
			BAH69642.1	AF000392	Lotus japonicus
			BAH19760.1	AB052788	Glycine max
			CAH93316.1	Z69370	Cucumis sativus
			BAH19757.1	AB052785	Glycine max
			BAH19756.1	AB052784	Glycine max
			AA016016.1	AF080545	Nepenthes alata
			AA042860.1	AF154930	Prunus dulcis
SEQ ID NO. 1359			SEO ID NO. 1370		
BAA333810.1	AB018441	Nicotiana tabacum	BAB19760.1	AB052788	Glycine max
AAA33810.1	AF325723	Pennisetum ciliare	BAB19757.1	AB052785	Glycine max
			BAH19756.1	AB052784	Glycine max
			AA001600.1	AF016713	Lycopersicon esculentum
			CAH32034.1	AF023472	Hordeum vulgare
			CAH93316.1	Z69370	Cucumis sativus
			AAU70002.1	AF213936	Prunus dulcis
			AAU7077.1	AF140606	Oryza sativa
			AAU7875.1	AF000392	Lotus japonicus
			BAH19693.1	AJ278966	Brassica napus
SEQ ID NO. 1361					
AAA001567.1	L47672	Picea glauca			
SEQ ID NO. 1365					
CAH52689.1	AJ132224	Lycopersicon esculentum			
CAH309419.1	AJ010942	Oryza sativa			
BAB19864.1	AB052885	Nicotiana tabacum			
CAH47324.1	X68656	Medicago truncatula			
AB060594.1	U38651	Ricinus communis			
AAU79761.1	L08196	Vitis vinifera			
CAH40511.1	AJ0001061	Vitis vinifera			
AAU7077.1	Y09590	Vitis vinifera			
AAU79857.1	L08188	Ricinus communis			
CAH06079.1	Z83829	Picea abies			
BAB19693.1	AB052884	Oryza sativa			





CAC10270.1	AJ243427	Malus x domestica	CAC12118.1	AJ224766	Phaseolus vulgaris
ABC95118.1	U71244	Brassica rapa	CAB17074.1	Z99952	Phaseolus vulgaris
CAC09477.1	AL442113	Oryza sativa	RAU58496.1	AF172856	Lycopersicon esculentum
CAB62167.1	AL242928	Castanea sativa	RAU53012.1	AF098849	Brassica napus
RAF06346.1	AF195653	Vitis vinifera	CRA05894.1	AJ003137	Lycopersicon esculentum
RAU02259.1	U57787	Avena sativa	BAA08245.1	D45403	Zea mays
RAU02509.1	AF178653	Vitis riparia	BAA88898.1	AB020961	Zea mays
CAC10492.1	AJ131731	Pseudotsuga menziesii	CAB16317.1	Z99173	Nicotiana tabacum
CRA09228.1	AJ010501	Cicer arietinum	ABAB8263.1	AF019147	Zea mays
BA095165.1	AB029918	Nicotiana tabacum	CAC82583.1	Z68291	Pisum sativum
RAF22624.1	AF227324	Vitis vinifera	CAC68192.1	X99936	Zea mays
ABAB53368.1	U77657	Oryza sativa	RAAC35211.1	U12637	Hemerocallis hybrid cultiva
ABAB61590.1	AF003007	Vitis vinifera	ABAB7142.1	U93166	Prunus armeniaca
ABAB53367.1	U77656	Oryza sativa	SFQ ID NO. 1397		Glycine max
RAF61440.1	AF138264	Ipomoea batatas	RAA333967.1	M76981	Phaseolus vulgaris
RAF61442.1	AF138266	Ipomoea batatas	RAA235563.1	D50094	Phaseolus vulgaris
RAF61441.1	AF138265	Ipomoea batatas	RAA19152.1	AB000585	Glycine max
RAA27969.1	AF242373	Ipomoea batatas	RAA34020.1	M20037	Glycine max
CAB17075.1	Z99953	Phaseolus vulgaris	RAA34022.1	M76980	Glycine max
ABAB67878.1	U59465	Vicia faba	RAA34021.1	M20038	Glycine max
CRA08906.1	AJ009878	Cicer arietinum	SEQ ID NO. 1390		Ipomoea batatas
CAB82995.1	Z30338	Vicia sativa	RAA77043.1	AB035183	Dianthus caryophyllus
BA032495.1	AB038598	Vigna mungo	CAB06427.1	Z84383	Dianthus caryophyllus
RAA229084.1	AF082181	Solanum melongena	CAB06429.1	Z84385	Dianthus caryophyllus
CRA78403.1	Z14028	Lycopersicon esculentum	CAB06430.1	Z84386	Dianthus caryophyllus
BA008244.1	D45402	Zea mays	CAB11466.1	Z98758	Dianthus caryophyllus
CAB83673.1	Z32795	Glycine max	CAB06538.1	Z84571	Dianthus caryophyllus
CAB17077.1	Z99955	Phaseolus vulgaris	CAB06428.1	Z84384	Dianthus caryophyllus
CAB16316.1	Z99172	Vicia sativa	SFQ ID NO. 1391		Brassica napus
CAB53397.1	AJ245868	Medicago sativa	RAA01360.1	AF314811	Vitis vinifera
RAA62937.1	AF007215	Lavatera thuringiaca	CAB40834.1	AJ005696	Actinidia deliciosa
BA096501.1	AB032168	Nicotiana tabacum	RAA14481.1	U92286	Lycopersicon esculentum
CAB57675.1	X21815	Zea mays	RAA57875.1	U60267	Medicago sativa
RAA49455.1	U41902	Pseudotsuga menziesii	CAB67069.1	X98421	Brassica napus
CAB17076.1	Z99954	Phaseolus vulgaris	CAB01361.1	AF314812	Oryza sativa
RAA53011.1	AF089848	Brassica napus	RAA19316.1	D49714	Mesembryanthemum crystallinum
CAB86829.1	Z48736	Lycopersicon esculentum	RAA18662.1	AF067967	Medicago sativa
RAA27968.1	AF242372	Ipomoea batatas	CAB67070.1	X98422	
ABAB65374.1	U52970	Phaseolus vulgaris			



CAA53211.1	X75480	Eucalyptus gunnii	CAA61589.1	X89409	Lotus japonicus
AAK00680.1	AF229408	Brassica napus	CAA67889.1	X93552	Asparagus officinalis
CAV47070.1	Y13733	Zea mays	AAE74755.1	AE263432	Helianthus annuus
AAK00683.1	AE229411	Brassica rapa	AAO05035.1	AF014057	Triphysaria versicolor
CAV79625.1	Z19573	Medicago sativa	AAO05034.1	AF014056	Triphysaria versicolor
CAK35845.1	AF083332	Medicago sativa	AAO05033.1	AF014055	Triphysaria versicolor
CAA06687.1	AF005702	Zea mays	CAA6526.1	Z72354	Vicia faba
CAK13177.1	AF005702	Saccharum officinarum	CAA8141.1	X67958	Asparagus officinalis
AAI19487.1	D66590	Zinnia elegans	CAA61590.1	X89410	Lotus japonicus
BAO04046.1	D16624	Eucalyptus botryoides	CAA36429.1	X52179	Pisum sativum
AAJ18000.1	AF109157	Eucalyptus globulus	BAA50252.1	AB035248	Astragalus sinicus
CAAF23409.1	AF207552	Brassica napus	CAA36430.1	X52180	Pisum sativum
AAE23411.1	AF207554	Brassica oleracea	BAA56251.1	AB035247	Astragalus sinicus
AAE23412.1	AF207555	Brassica rapa	CAB57292.1	AJ133522	Phaseolus vulgaris
AAE23410.1	AF207553	Brassica napus	AAE49614.1	U77679	Glycine max
AAE23416.1	AF207559	Brassica rapa	BAA18951.1	D83378	Oryza sativa
AAE23415.1	AF207558	Brassica oleracea	BAO03991.1	U55873	Oryza sativa
SEQ ID NO. 1412			AAE02776.1	AF190729	Helianthus annuus
BAK14395.1	AF339732	Dianthus caryophyllus	AAE71532.1	AF005724	Sardersonia aurantiaca
BAE20580.1	AB042267	Zea mays	CAA58052.1	X82849	Zea mays
BAE20581.1	AB042268	Zea mays	BAE91481.1	AF037363	Helianthus annuus
BAE20579.1	AB042269	Zea mays	CAA73762.1	Y13321	Pisum sativum
BAE17300.1	AB042260	Zea mays	CAA73765.1	Y13322	Pisum sativum
BAE28783.1	AB042491	Zea mays	BAA56452.1	AS021793	Pyrus pyrifolia
BAE51113.1	AB031012	Zea mays	AAE73943.1	LZ3633	Glycine max
BAE75253.1	AB004882	Zea mays	SEQ ID NO. 1415		
BAE51112.1	AB031011	Zea mays	AAE21985.1	AF271636	Zea mays
BAE20582.1	AB042269	Zea mays	AAE18622.2	AF003551	Zea mays
BAE41137.1	AB060130	Zea mays	AAE28387.1	AF191667	Brassica oleracea
SEQ ID NO. 1414			AAE28386.1	AF191666	Brassica napus
BAE1726.1	X84448	Rephanus sativus	AAE97685.1	AF042184	Brassica napus
CAA59138.1	X84448	Brassica oleracea	AAE4462.1	AF293461	Brassica napus
AAE16325.1	AF061740	Elaeagnus umbellata	SEQ ID NO. 1417		
CAO08913.1	AJ009952	Phaseolus vulgaris	CAA03379.1	U27108	Brassica napus
AAE02775.1	AF190728	Helianthus annuus	AAE03378.1	U27107	Brassica napus
AAE49613.1	U77678	Glycine max	AAE02937.1	AF084971	Catharanthus roseus
BAE81011.1	U99923	Medicago sativa	AAE49474.1	U41817	Phaseolus vulgaris
BAE09952.1	U55874	Glycine max	CAA11499.1	AJ223624	Spinacia oleracea
ABE48058.1	L40327	Medicago sativa	CAA88492.1	Z48602	Nicotiana tabacum



AAC49398.1	U46217	Petroselinum crispum	AAA32390.1	ME7514	Brassica oleracea
CMA76555.1	Y16953	Sinapis alba	CMA50575.1	X71441	Nicotiana tabacum
CMA88493.1	Z48603	Nicotiana tabacum	CMA53366.1	X75670	Oryza sativa
CMA53073.1	X92102	Raphanus sativus	CMA04702.1	AJ001369	Olea europaea
CMA58772.1	X83920	Brassica napus	AAAC6262.1	L22209	Cuscuta reflexa
AAE000098.1	L01449	Glycine max	CAC49701.1	U79011	Borago officinalis
AAE80169.1	U10270	Zea mays	CMA56318.1	X80008	Nicotiana tabacum
ABA40291.1	U42208	Oryza sativa	CMA84240.1	X68140	Nicotiana tabacum
PAC49556.1	U04295	Oryza sativa	RA010774.1	AF098510	Petunia x hybrida
CMA58774.1	X83922	Brassica napus	PAC560299.1	AF233640	Petunia x hybrida
RA042038.1	AF084972	Catharanthus roseus	CMA11033.1	AJ222981	Physcomitrella patens
ABE36314.1	U57389	Phaseolus vulgaris	SEQ ID NO. 1433		
CAC00056.1	AJ232743	Petroselinum crispum	BRAL19675.1	D49486	Solidago canadensis
CMA71768.1	Y10809	Petroselinum crispum	CMA39819.1	X56435	Pisum sativum
CMA71770.1	Y10810	Petroselinum crispum	AAA33688.1	J04087	Pisum sativum
BA02304.1	D12920	Triticum aestivum	BRAL01088.1	D10244	Spinacia oleracea
CMA40101.1	X56781	Triticum aestivum	CMA32200.1	X14041	Lycopersicon esculentum
BA007289.1	D38111	Triticum aestivum	AAA34195.1	M37151	Lycopersicon esculentum
AAA34293.1	M28704	Triticum aestivum	BAE21760.1	AB026724	Oryza sativa
AAK14790.1	AY027510	Catharanthus roseus	BRAL12745.1	D85239	Oryza sativa
CMA58773.1	X83921	Brassica napus	AAA33728.1	M20792	Petunia x hybrida
CMA52897.1	X74943	Lycopersicon esculentum	BAE67990.1	U69536	Triticum aestivum
BAE62402.1	Y15165	Zea mays	CMA08582.1	AF054151	Triticum aestivum
BRAL10928.1	D64051	Triticum aestivum	CMA41455.1	X58579	Zantedeschia aethiopica
CMA52896.1	X74942	Lycopersicon esculentum	BRAL24919.1	AB004870	Pinus sylvestris
RAAL17488.1	U07933	Triticum aestivum	RAA33659.1	M63003	Marchantia paleacea
CMA66477.1	X97903	Vicia faba	PAC25568.1	AF071112	Pisum sativum
CMA52895.1	X74941	Lycopersicon esculentum	BAE87572.1	AF034630	Brassica rapa subsp. pekinensis
BA02303.2	D12919	Triticum aestivum	CMA10160.1	AJ012739	Panax ginseng
AAE68429.1	M63999	Triticum aestivum	CMA10132.1	AJ012691	Cicer arietinum
CMA67298.1	X98747	Hordeum vulgare	CMA57992.1	X17565	Gicer arietinum
RAAL19103.1	U10466	Triticum aestivum	CMA41154.1	X58578	Zea mays
BAE36492.1	AB021736	Oryza sativa	ABE40394.1	D80659	Mesembryanthemum crystallinum
BRAL11431.1	D78609	Oryza sativa	BAE60826.1	AF073732	Lycopersicon esculentum
SEQ ID NO. 1425			BAE26162.1	AF057359	Paulownia kawakamii
CMA73333.1	Y12805	Nicotiana tabacum	AAA33917.1	L36320	Oryza sativa
CMA09420.1	AJ010943	Lycopersicon esculentum	CMA73929.1	Y13610	Carica papaya
SEQ ID NO. 1428			CMA37866.1	X53872	Spinacia oleracea
CMA04703.1	AJ001370	Olea europaea	RAC14464.1	L19435	Oryza sativa

BRA00799.1	D00999	Oryza sativa	CMA60507.1	X86924	Vitis vinifera
AAK06837.1	AF328859	Avicennia marina	BAA08445.1	D49475	Zea mays
AAK01605.1	AF016893	Populus tremuloides	AAH51596.1	U93561	Nicotiana plumbaginifolia
AAK05576.1	AF009735	Raphanus sativus	AAH51595.1	U93560	Zea mays
AAA33510.1	M54936	Zea mays	CMA94837.1	AJ277950	Nicotiana plumbaginifolia
CAA65043.1	X95728	Brassica juncea	CMA09478.1	AJ011096	Asparagus officinalis
RAK14465.1	LI9434	Oryza sativa	CMA69601.2	Y08293	Nicotiana plumbaginifolia
BRA00800.1	D01000	Oryza sativa	AAH35908.1	U48695	Lycopersicon esculentum
CAB60191.1	AJ250667	Avanas comensis	CMA09456.1	AJ011006	Asparagus officinalis
CAA39444.1	X55974	Nicotiana plumbaginifolia	CAA11635.1	X58831	Chloralla sorokiniana
RAK48484.1	AF170297	Manihot esculenta	CMA11636.1	X58832	Chloralla sorokiniana
RAK08581.1	AF054150	Zantedeschia aethiopica			
RAK34194.1	M37150	Lycopersicon esculentum			
CAA32199.1	X14040	Lycopersicon esculentum			
AAK01604.1	AF016892	Populus tremuloides			
AAH49913.1	U34727	Zea mays			
SEQ ID NO. 1434			SEQ ID NO. 1438		
RAC36697.1	AF075579	Mesembryanthemum crystallinum	RAK26322.1	AF120148	Triticum aestivum
CAC10358.1	AJ277086	Nicotiana tabacum	RAK26330.1	AF120147	Triticum aestivum
AAK19804.1	AF180355	Brassica oleracea	RAK26330.1	AF120146	Triticum aestivum
AAK17804.1	AF092431	Lotus japonicus	AAH06756.2	U66307	Brassica napus
CAC10359.1	AJ277087	Nicotiana tabacum	AAH91164.1	U89920	Sesamum indicum
CAC09575.1	AJ298987	Fagus sylvatica	BAH408148.1	AF284065	Nicotiana paniculata
CAA72341.1	Y11607	Mesembryanthemum crystallinum	RAH03687.1	U32511	Nicotiana tabacum
RAC36698.1	AF075580	Mesembryanthemum crystallinum	AAH40328.1	AF323175	Mesembryanthemum crystallinum
AAK11430.1	AF092432	Lotus japonicus	RAK21969.1	AF056326	Zea mays
AAK43835.1	AF213455	Zea mays	RAK27751.1	Z11693	Avicennia marina
AAK11430.1	AF097667	Mesembryanthemum crystallinum	BAH40956.1	AF059557	Spirodela polyrrhiza
RAC36699.1	AF075581	Mesembryanthemum crystallinum	AAK17133.1	AF056325	Avena sativa
RAC36700.1	AF075582	Mesembryanthemum crystallinum	BAK25729.1	AB012107	Hordeum vulgare
RAC35951.1	AF079355	Mesembryanthemum crystallinum	RAF97409.1	AF005128	Oryza sativa
CBA90634.1	AJ277744	Fagus sylvatica	RAK14461.1	AF293460	Actinidia arguta
RAK93932.1	U91960	Zea mays	RAK26439.1	AF357837	Lycopersicon esculentum
RAK26828.1	AF075603	Oryza sativa			Solanum tuberosum
CAC09576.1	AJ298988	Fagus sylvatica			
SEQ ID NO. 1435			SEQ ID NO. 1439		
CBA69600.1	Y08292	Nicotiana plumbaginifolia	BAK21545.1	AF042950	Nicotiana tabacum
CMA94836.1	AJ277949	Nicotiana plumbaginifolia	RAK01938.1	AF026321	Lupinus albus
CAC18730.1	AJ300370	Vitis vinifera	BAK20522.1	AF0004809	Catharanthus roseus
			BAK74025.1	AF156696	Nicotiana tabacum
			BAK21562.1	AF042951	Nicotiana tabacum
			BAK21563.1	AF042956	Nicotiana tabacum
			CMA67396.1	X98891	Solanum tuberosum

CAC28218.1	AJ286743	Sesbania rostrata	CNA42529.2	X59872	Triticum aestivum
CAC28219.1	AJ286744	Sesbania rostrata	RAK29456.1	AF352523	Lens culinaris
RAK81346.1	AF000354	Medicago truncatula	AF107023	Triticum aestivum	
RAK81347.1	AF000355	Medicago truncatula	AA74723.1	L07946	Volvox carteri
RAK38859.1	AF156695	Solanum tuberosum	CAAL24232.1	AJ224933	Lycopersicon esculentum
CAAG7395.1	X98890	Solanum tuberosum	RAK29455.1	AF352525	Lens culinaris
RAK82146.1	AF022873	Lycopersicon esculentum	RAAD1009.1	AF107027	Triticum aestivum
RAK82147.1	AF022874	Lycopersicon esculentum	RAK50578.1	U03391	Lycopersicon esculentum
CA74607.1	Y14214	Lycopersicon esculentum	RAA51553.1	L29456	Nicotiana tabacum
RAK24956.2	AF239619	Oryza sativa	RAA50303.1	L34578	Pisum sativum
RAK26146.1	AF110380	Triticum aestivum	RAA598452.1	U16726	Chlamydomonas reinhardtii
RAK76345.1	AF271893	Oryza sativa	CAK29423.1	X05636	Pisum sativum
RAK06857.1	AF337531	Oryza rufipogon	RAK27930.1	AF222804	Euphorbia esula
RAK25766.1	AF335588	Oryza sativa	CAK07233.1	AJ006767	Cicer arietinum
RAK40188.1	AF229169	Oryza sativa	BAK87331.1	AB012694	Lilium longiflorum
RAK43998.1	AF215837	Apium graveolens var. dulce	BAK86671.1	AB029614	Nicotiana tabacum
CAK68813.1	Y07520	Chlorella kessleri	CAK73171.1	Y12599	Apium graveolens
CAK39036.1	X55349	Chlorella kessleri	RAK68957.1	AF031547	Fritillaria agrestis
CAK33192.1	X75440	Chlorella kessleri	SEQ ID NO. 1444		
SEQ ID NO. 1440			RAK62181.1	U95953	Zea mays
RAK49815.1	U87257	Daucus carota	RAK00632.1	AF224672	Persea americana
CAK04245.1	AJ000693	Hordeum vulgare	BAB11932.1	AB030293	Vigna unguiculata
			RAK26356.1	AF190462	Phaseolus vulgaris
SEQ ID NO. 1441			SEQ ID NO. 1445		Oryza sativa
RAK64525.1	AF253416	Lycopersicon chilense	BAK81762.1	AF000364	
CAK77867.1	Z11842	Lycopersicon esculentum	SEQ ID NO. 1446		
RAK03076.1	U01890	Lycopersicon pennellii	BAK21922.1	AB006600	Petunia x hybrida
RAK41007.1	AF107024	Triticum aestivum	BAK21923.1	AB006601	Petunia x hybrida
RAK29452.1	AF352249	Lathyrus sativus	BAK21921.1	AB006599	Petunia x hybrida
RAK29453.1	AF352250	Lathyrus sativus	BAB19110.1	AB000451	Petunia x hybrida
RAK24246.1	L07947	Volvox carteri	BAK21925.1	AB006603	Petunia x hybrida
RAK25203.1	D97064	Triticum aestivum	BAK21926.1	AB006604	Petunia x hybrida
RAK29450.1	AF352247	Pisum sativum	BAK21924.1	AB006602	Petunia x hybrida
RAK29451.1	AF352248	Pisum sativum	BAK19111.1	AB000452	Petunia x hybrida
CAK40362.1	X57077	Zea mays	BAK05077.1	D26084	Petunia x hybrida
RAK29449.1	AF352246	Pisum sativum	BAK026942.1	AF119050	Datisca glomerata
RAK41008.1	AF107026	Triticum aestivum	BAK05076.1	D26083	Petunia x hybrida
RAK25204.1	D87065	Lens culinaris	RAK06243.1	AF053077	Nicotiana tabacum
RAK29454.1	AF352251				
RAK41005.1	AF107022	Triticum aestivum			



ABA32676.1	N3737	Arachis hypogaea	CAA66036.1	X97350	Populus balsamifera subsp
CAA64143.1	X94943	Lycopersicon esculentum	trichocarpa		
BAA82307.1	A8027753	Nicotiana tabacum	BAA11413.1	D90115	Amoracia rusticana
AA867737.1	L77080	Phaeosanthus humilis	CAA37427.1	AF149277	Phaseolus vulgaris
AA87429.2	AF149279	Phaseolus vulgaris	CAA93485.1	X85228	Triticum aestivum
CAAT1494.1	X10468	Spinacia oleracea	CAB55334.1	AJ250121	Picea abies
AA87375.1	AF145349	Glycine max	AA87602.1	L07554	Linum usitatissimum
BAAD3644.1	D14997	Oryza sativa	AB41811.1	L36157	Medicago sativa
AA811482.1	U51192	Glycine max	AA849820.1	AF014469	Oryza sativa
AA811481.1	U51191	Glycine max			
BAAD7663.1	D42064	Nicotiana tabacum	SEQ ID NO. 1459		
AA85637.1	L13654	Lycopersicon esculentum	BAA11394.1	D78498	Brassica rapa
BA894962.1	AB042103	Asparagus officinalis	BAA11388.1	D78491	Brassica rapa
AA85636.1	L13653	Lycopersicon esculentum	CAAT1803.1	Y10850	Brassica juncea
CAA80502.1	Z22920	Spirodela polyrrhiza	AAAT4958.1	L31940	Brassica rapa
AA863024.1	AF244921	Spinacia oleracea	BAA11391.1	D78494	Brassica rapa
BAAD7664.1	D42065	Nicotiana tabacum	AAAT70556.1	AF200712	Brassica oleracea
BAA11853.1	D83225	Populus nigra	CAAT1805.1	Y10852	Brassica juncea
BA892500.1	AF001383	Oryza sativa	CAAT1802.1	Y10849	Brassica juncea
CAA66034.1	X97348	Populus balsamifera subsp.	CAAT1806.1	Y10853	Brassica juncea
			CAAT1804.1	Y10851	Brassica juncea
CAA76374.2	Y16776	Spinacia oleracea	AA827531.1	AF078912	Mesembryanthemum crystallinum
AA863027.1	AF244924	Spinacia oleracea	AB861212.1	AF000935	Mesembryanthemum crystallinum
CAA40796.1	X57564	Amoracia rusticana	AAAT19611.1	U11423	Coffea arabica
CAA62226.1	X90693	Medicago sativa	CAA65009.1	X95709	Cicer arietinum
CAAT1489.1	Y10463	Spinacia oleracea	CAA82243.1	Z68138	Lycopersicon esculentum
AA863026.1	AF244923	Spinacia oleracea	CAA10232.1	AJ150886	Fagus sylvatica
CAA63097.1	X71593	Lycopersicon esculentum	AA85074.1	L27813	Actinidia deliciosa
CAB67121.1	Y19023	Lycopersicon esculentum	AA850080.1	AF333385	Avicennia marina
CAA66035.1	X97349	Populus balsamifera subsp.	CAA54471.1	X77254	Viola faba
			CAA82022.1	AF279655	Typha latifolia
AA80116	D90116	Amoracia rusticana	CAC12823.1	AF299253	Nicotiana tabacum
BAAT7241.1	D38051	Populus kitakamensis	CAAT7242.1	AJ133145	Persea americana
CAA62615.1	X91232	Mercurialis annua	CAB53392.1	AJ247196	Eichhornia crassipes
CAAT1393.1	AJ401276	Zea mays	AA811269.1	AJ247090	Eichhornia crassipes
BAAD6334.1	D30652	Populus kitakamensis	AA811269.1	AF334141	Avicennia marina
AA843561.1	AF155124	Gossypium hirsutum	AA861122.1	AF329968	Avicennia marina
CAAT38519.1	AF007211	Glycine max	AA844757.1	AF268391	Musa acuminata
CAA66037.1	X97351	Populus balsamifera subsp.	AA853391.1	AJ247195	Eichhornia crassipes
			AA849627.1	U43530	Oryza sativa
BA897734.1	AF014502	Glycine max	BAA14038.1	D89931	Oryza sativa





[illegible]





RAB82755.1	U72725	Oryza longistaminata	SEQ ID NO. 1481	Malus x domestica
RAG52992.1	U77688	Ipomoea nil	RAK25768.1	AF336307
RAB92756.1	U72724	Oryza sativa	RAJ73872.1	144142
RAB82753.1	U72726	Oryza longistaminata	CMA36676.1	X32429
RAB86536.1	AB029327	Nicotiana tabacum	RAG33924.1	X009094
RAG2994.1	U77888	Ipomoea nil	AMB4193.1	AF029242
			AMC62104.1	AF091513
SEQ ID NO. 1480			SEQ ID NO. 1482	
RAD21872.1	AF078082	Phaseolus vulgaris	CMA07563.1	AJ007574
RAC233542.1	U20948	Ipomoea trifida	CMA10608.1	AJ132228
RAJ73134.1	Y12531	Brassica oleracea	RAJ70778.1	Y09591
CAJ74662.1	Y14286	Brassica oleracea	AD16014.1	AF080543
CAJ67145.1	X98520	Brassica oleracea	CMA70969.1	Y09826
CAJ73133.1	Y12530	Brassica oleracea	AD16015.1	AF080544
AAP3834.1	U82481	Zea mays	CMA70968.1	Y09825
AAA33008.1	M97667	Brassica napus	CMA92992.1	Z68759
CAB9179.1	AJ245479	Brassica napus subsp. napus	AD16013.1	AF080542
AAA33000.1	Y16647	Brassica oleracea	AD15945.1	AF061435
CAJ74661.1	Y14285	Brassica oleracea	CAJ72006.1	Y11121
RAJ23676.1	AB000970	Brassica rapa	RAF15944.1	AF061434
CAB41878.1	Y18259	Brassica oleracea	RAF15946.1	AF061436
CAB41879.1	Y18260	Brassica oleracea	RAB94844.1	U31932
CAJ79355.1	U00443	Brassica napus	RAB96830.1	U54823
CAJ7576.1	Z38921	Brassica oleracea	RAD25162.1	AF014810
RAJ07576.1	D38563	Brassica rapa	RAB93437.1	AB022783
RAJ2837.1	AB032474	Brassica oleracea	AD25161.1	AF014809
RAJ2836.1	AB032473	Brassica oleracea	AD25160.1	AF014808
RAJ21001.1	AB034061	Brassica rapa	RAF76897.1	AJ274032
RAJ07577.2	D38564	Brassica rapa	CAB42599.1	AJ238635
RAJ07577.1	D30049	Brassica rapa	SEQ ID NO. 1484	
RAJ21132.1	D88193	Brassica rapa	AMG13408.1	AF297472
ADJ2097.1	AF088885	Nicotiana tabacum	AMG13407.1	AF297471
RAJ94509.1	AB041503	Populus nigra	AAA32993.1	M81224
RAJ94510.1	AB041504	Populus nigra	AAA33011.1	L21896
RAJ27489.1	AF077130	Oryza sativa	CMA80862.1	Z24737
ABJ61708.1	U93048	Daucus carota	CMA9890.1	AJ237582
RAF78016.1	AF238472	Oryza sativa	CMA10234.1	AJ130888
RAJ02535.1	AF044260	Oryza sativa	SEQ ID NO. 1485	
RAJ49629.1	U51330	Triticum aestivum		
AAA33915.1	L27821	Oryza sativa		

BA76745.1	D89972	Vigna mungo	BA36774.1	AF210616	Zea mays
BA66544.1	AJ131718	Zea mays	CA37509.1	Y15219	Oryza sativa subsp. indica
BA76744.1	D89971	Vigna mungo	SEQ ID NO. 1489		
BA66545.1	AJ131719	Zea mays	BA08094.1	D45066	Cucurbita maxima
BA04225.1	D17401	Ricinus communis	BA08190.1	AF000836	Oryza sativa
BA16318.1	Z99174	Vicia narbonensis	CA46875.1	X66076	Zea mays
BA07639.1	AJ007743	Vicia sativa	BA70119.1	U82230	Triticum aestivum
BA51545.1	AJ243876	Lycopersicon esculentum	CA09976.1	AJ012284	Solanum tuberosum
SEQ ID NO. 1486			CA04440.1	AJ000991	Hordeum vulgare
CA45701.1	X64349	Nicotiana tabacum	CA89831.1	AJ242853	Solanum tuberosum
CA78043.1	X11999	Lycopersicon esculentum	CA56604.1	X97945	Nicotiana tabacum
CA35601.1	X17578	Solanum tuberosum	BA78574.1	AB028131	Oryza sativa
BA96365.2	AB043960	Bruguiera gymnorhiza	SEQ ID NO. 1490		
BA04808.1	AF037457	Fritillaria agrestis	CAC10555.1	AJ279059	Lotus japonicus
BA02554.1	D13297	Pisum sativum	CA64475.1	X95098	Lycopersicon esculentum
CA040670.1	X57408	Triticum aestivum	AG28780.1	AF306518	Brassica napus
AD38521.1	AF139818	Brassica napus	AG11397.1	AF118858	Lycopersicon esculentum
AD5562.1	AF110780	Volvox carter f. nagariensis	AD16012.1	AF080541	Nepenthes alata
CA36674.1	X52427	Lycopersicon esculentum	AA01774.1	AF188744	Brassica napus
SEQ ID NO. 1487			SEQ ID NO. 1491		
CA71238.1	X10156	Brassica napus	BA02462.1	AF047490	Zea mays
CA71237.1	X10155	Brassica napus	AG10425.1	AF251013	Tagetes erecta
CA62165.1	AJ233307	Brassica napus	CA12062.1	AJ244683	Narcissus pseudonarcissus
CA49181.1	U39289	Brassica napus	AA13698.1	AF195507	Lycopersicon esculentum
AA49182.1	U39319	Brassica napus	CA61985.1	X89897	Capsicum annuum
SEQ ID NO. 1488			AA14399.1	AF054629	Oryza sativa
CA64615.1	X95297	Lycopersicon esculentum	CA55392.1	X78815	Narcissus pseudonarcissus
CA67600.1	X99210	Lycopersicon esculentum	CA52573.1	X59948	Lycopersicon esculentum
CA84399.1	AJ006292	Antirrhinum majus	AA68865.1	M86863	Lycopersicon esculentum
CA78386.1	Z13996	Petunia x hybrida	CA55078.1	X78271	Lycopersicon esculentum
AA72256.1	AF161711	Plimelia brachycarpa	CA59726.1	X71023	Lycopersicon esculentum
CA64614.1	X95296	Lycopersicon esculentum	AA10645.1	AF086803	Oryza sativa subsp. japonica
BA88224.1	AB028652	Nicotiana tabacum	AA10426.1	AF251014	Tagetes erecta
CA78387.1	Z13997	Petunia x hybrida	BA08179.1	AB046992	Citrus unshiu
BA88221.1	AB028649	Nicotiana tabacum	CA95519.1	L39266	Zea mays
BA88222.1	AB028650	Nicotiana tabacum	CA48195.1	X68058	Capsicum annuum
CA66952.1	X98308	Lycopersicon esculentum	AA12846.1	U37285	Zea mays
AA33500.1	MT3028	Zea mays	CA75094.1	Y14807	Dunalicella bardawil



Z18921	Brassica oleracea	SEQ ID NO. 148921	Brassicaceae	CA350597.1	X71593	Lycopersicon esculentum
CA379355.1	Brassica rapa	CA379355.1	Brassicaceae	BA00192.1	D11396	Nicotiana tabacum
D30049	Brassica rapa	BA00192.1	Brassicaceae	CA352900.1	AF0001383	Oryza sativa
BA021132.1	Nicotiana tabacum	CA352900.1	Solanaceae	CA462597.1	X91172	Raphanus sativus
AF088885	Brassica napus	CA462597.1	Brassicaceae	CA43361.1	AF15124	Gossypium hirsutum
AF028699	Brassica napus	CA43361.1	Brassicaceae	CA037430.1	AF149280	Spinacia oleracea
AF007545	Brassica napus	CA037430.1	Brassicaceae	CA376376.1	X16778	Spinacia oleracea
BA041503	Populus nigra	CA376376.1	Salicaceae	CB677121.1	X19023	Lycopersicon esculentum
BA041504	Populus nigra	CB677121.1	Salicaceae	CA376680.1	X17192	Cucurbita pepo
AC073405	Oryza sativa	CA376680.1	Gramineae	CA71494.1	X10468	Spinacia oleracea
SEQ ID NO. 1498	Spinacia oleracea	CA71494.1	Spinaciaceae	BA94962.1	AF042103	Asparagus officinalis
CA376374.2	Glycine max	BA94962.1	Fabaceae	BA006335.1	D30653	Populus kitakamensis
CA376374.2	Glycine max	BA006335.1	Fabaceae	CA366037.1	X97351	Populus balsamifera subsp.
AD11481.1	Glycine max	CA366037.1	Fabaceae	trichocarpa		
AD11482.1	Lycopersicon esculentum	trichocarpa	Lycopersicaceae	CA304050.1	M74103	Nicotiana sylvestris
CA365637.1	Oryza sativa	CA304050.1	Gramineae	CA362227.1	X90694	Medicago sativa
BA03644.1	Spirodela polyrrhiza	CA362227.1	Spirodelaaceae	BA363027.1	AF244924	Spinacia oleracea
CA30502.1	Lycopersicon esculentum	BA363027.1	Lycopersicaceae	SEQ ID NO. 1499		
CA365636.1	Nicotiana tabacum	SEQ ID NO. 1499	Solanaceae	AA594589.1	AF022460	Glycine max
BA007664.1	Crataegus hypogaea	AA594589.1	Rosaceae	CA32913.1	M32885	Persea americana
AA32576.1	Nicotiana tabacum	CA32913.1	Solanaceae	AA419701.1	L24438	Thlaspi arvense
AA32576.1	Nicotiana tabacum	AA419701.1	Solanaceae	BA040324.1	AF037245	Asparagus officinalis
AA32576.1	Nicotiana tabacum	BA040324.1	Solanaceae	CA339318.1	AF029858	Sorghum bicolor
AA32576.1	Nicotiana tabacum	CA339318.1	Solanaceae	BA340323.1	AF037244	Asparagus officinalis
AA32576.1	Nicotiana tabacum	BA340323.1	Solanaceae	CA370575.1	X09423	Nepeta racemosa
AA32576.1	Nicotiana tabacum	CA370575.1	Solanaceae	BA047832.1	AF166332	Nicotiana tabacum
AA32576.1	Nicotiana tabacum	BA047832.1	Solanaceae	AA594588.1	AF022459	Glycine max
AA32576.1	Nicotiana tabacum	AA594588.1	Solanaceae	CA501282.1	AF122821	Capsicum annuum
AA32576.1	Nicotiana tabacum	CA501282.1	Solanaceae	CA503142.1	X70981	Solanum melongena
AA32576.1	Nicotiana tabacum	CA503142.1	Solanaceae	BA383941.1	Z33875	Mentha x piperita
AA32576.1	Nicotiana tabacum	BA383941.1	Solanaceae	BA344132.1	AF218296	Plasum sativum
AA32576.1	Nicotiana tabacum	BA344132.1	Solanaceae	CA370576.1	X09424	Nepeta racemosa
AA32576.1	Nicotiana tabacum	CA370576.1	Solanaceae	AA044151.1	AF124816	Mentha x piperita
AA32576.1	Nicotiana tabacum	AA044151.1	Solanaceae	BA006335.1	D14990	Solanum melongena
AA32576.1	Nicotiana tabacum	BA006335.1	Solanaceae	CA306645.1	X71654	Solanum melongena
AA32576.1	Nicotiana tabacum	CA306645.1	Solanaceae	AA037433.1	AF150881	Lycopersicon esculentum x
AA32576.1	Nicotiana tabacum	AA037433.1	Solanaceae	Lycopersicon		
AA32576.1	Nicotiana tabacum	Lycopersicon		CA365580.1	X96784	Nicotiana tabacum
AA32576.1	Nicotiana tabacum	CA365580.1	Solanaceae	CA04152.1	AF124817	Mentha x piperita
AA32576.1	Nicotiana tabacum	CA04152.1	Solanaceae	CA3614635.1	X95342	Nicotiana tabacum
AA32576.1	Nicotiana tabacum	CA3614635.1	Solanaceae			

AA614962.1	AF214008	Brassica napus	AA661118.1	AF329371	Zea mays
AA614961.1	AF214007	Brassica napus	AA667860.1	U60201	Solanum tuberosum
CAB56503.1	AJ223812	Catharanthus roseus	AA53184.1	U09026	Lycopersicon esculentum
AA614963.1	AF214009	Brassica napus	AA621691.1	AY008278	Lycopersicon esculentum
AA614150.1	AF124815	Mantha spicata	CAB64766.1	X95513	Solanum tuberosum
AA656282.1	AF155332	Petunia x hybrida	CAB56460.1	Y18548	Solanum tuberosum
AA656284.1	AF022157	Glycine max	AA667858.1	U60200	Solanum tuberosum
BA12159.1	D83968	Glycine max	AA881595.1	AF019614	Solanum tuberosum
CAA01555.1	X70824	Solanum melongena	AA55724.1	X79107	Solanum tuberosum
			BA18970.2	U76687	Phaseolus vulgaris
			BA981594.1	AF019613	Solanum tuberosum
SEQ ID NO. 1500			AA64893.1	L35931	Hordeum vulgare
CAC24844.1	AJ303354	Hordeum vulgare	AA55318.1	X78580	Pisum sativum
			AA79186.1	U36339	Cucumis sativus
SEQ ID NO. 1501			CAB83038.1	AJ271161	Cucumis sativus
BA333415.1	AE017525	Brassica napus	BA960715.1	X73559	Hordeum vulgare
BA333417.1	AE017527	Brassica napus	CAB58859.1	X84040	Nicotiana tabacum
BA333418.1	AE017528	Brassica rapa	AA13296.2	AF204210	Phaseolus vulgaris
BA333421.1	AE017531	Brassica oleracea	BA31252.1	S73865	Solanum tuberosum
BA333419.1	AE017529	Brassica rapa	BA03042.1	DL3949	Glycine max
BA333416.1	AE017526	Brassica napus	CAA97845.1	Z73498	Vicia faba
BA333420.1	AE017530	Brassica oleracea	AA333987.1	J03211	Glycine max
AA33808.1	AF316419	Lolium perenne	BA667865.1	U60202	Solanum tuberosum
			CA63483.1	X92890	Cucumis sativus
SEQ ID NO. 1502			AA649159.1	X36191	Cucumis sativus
AAK35215.1	AF355602	Zea mays	AA61785.1	U25058	Cucumis sativus
AAK27698.1	AF347614	Lycopersicon esculentum	BA074259.1	AF039651	Solanum tuberosum
CAA65291.1	X96431	Hordeum vulgare	AA075609.1	Y15410	Pisum sativum
AAA97952.1	U52867	Hordeum vulgare	BA671759.1	U84198	Pisum sativum
AAK27687.1	AF347613	Lycopersicon esculentum	AA09202.1	U24232	Solanum tuberosum
AAK37711.1	X82256	Stylosanthes hamata	BA667732.1	U50075	Glycine max
AA641419.1	AF309643	Solanum tuberosum	CA39604.1	X56139	Glycine max
CAA57710.1	X82255	Stylosanthes hamata	CA64765.1	Y95512	Solanum tuberosum
CAA65536.1	X96761	Sporobolus stapifianus	BA74393.1	U13681	Lycopersicon esculentum
CAA57831.1	X82454	Stylosanthes hamata	BA53183.1	U09025	Lycopersicon esculentum
CAB11413.1	AJ223495	Brassica juncea	BA941272.1	U50081	Glycine max
AB94543.1	AF016306	Zea mays	CA330016.1	X06928	Glycine max
			CA555319.1	X78581	Pisum sativum
SEQ ID NO. 1504			CAA47717.1	X67304	Glycine max
CAB94852.1	AJ404331	Prunus dulcis	CA45088.1	X63525	Phaseolus vulgaris
CAA34906.1	X17061	Pisum sativum	AAA33986.1	J02795	Glycine max
AMF76207.1	AF271894	Zea mays			

RAA03726.1	U04785	Glycine max	AAA33915.1	L27821	Oryza sativa
CAA64769.1	X95516	Solanum tuberosum	AAD21872.1	AE078082	Phaseolus vulgaris
			AAG03090.1	AC073405	Oryza sativa
			BA94510.1	AE041504	Populus nigra
			BA91628.1	AY007545	Brassica napus
			BA94509.1	AE041503	Populus nigra
			CA937692.1	Z73295	Catharanthus roseus
			CB51834.1	00069	Catharanthus roseus
			BA84787.1	AF000559	Oryza sativa
			BA83373.1	AF000391	Oryza sativa
			BA92954.1	AF001551	Oryza sativa
			AA43496.1	AF131222	Oryza sativa
			AAK11674.1	AF339747	Lophopyrum elongatum
			BA94529.2	AF001800	Oryza sativa
			BA94517.1	AF001800	Oryza sativa
			BA978764.1	AB023482	Oryza sativa
			BA945416.1	AF001800	Oryza sativa
			BA938334.1	U92481	Zea mays
			BA97422.1	U59318	Lycopersicon esculentum
			BA976314.1	AF220503	Lycopersicon esculentum
			BA97424.1	U59317	Lycopersicon pimpinellifolium
			BA976307.1	AF220602	Lycopersicon pimpinellifolium
			CA967145.1	X39520	Brassica oleracea
			SEQ ID NO. 1511		
			CA950498.1	X71360	Malus sp.
			CA949826.1	U71604	Catharanthus roseus
			CA949827.1	U71605	Catharanthus roseus
			BA97311.1	AF008597	Catharanthus roseus
			AAD26206.1	AF117270	Malus x domestica
			CA935379.1	X75965	Vitis vinifera
			BA978340.1	AB017153	Atropa belladonna
			CA955628.1	X78994	Medicago sativa
			CA937525.1	U23066	Persea americana
			BA119657.1	AB002816	Perilla frutescens
			CA968620.1	U93210	Pisum sativum
			CA957410.1	X81812	Medicago sativa
			BA991227.1	U04434	Zea mays
			BA915414.1	AF036093	Nicotiana tabacum
			BA9597310.1	U96837	Chrysanthemum x morifolium
			BA905630.1	D26583	Hyoscyamus niger
			SEQ ID NO. 1508		
			BA937246.1	U58971	Nicotiana tabacum
			SEQ ID NO. 1510		
			BA961708.1	U93048	Daucus carota
			BA921965.1	AF028699	Brassica napus
			SEQ ID NO. 1506		
			ADA48912.1	AF139532	Liquidambar styraciflua
			CAC26920.1	AU295586	Arabidopsis lyrata subsp. petraea
			AD37433.1	AF150881	Lycopersicon peruvianum
			CB95335.1	AA010324	Populus balsamifera subsp. trichocarpa
			BA949301.1	AF131491	Matthiola incana
			AD36282.1	AF155332	Petunia x hybrida
			AG49299.1	AF313489	Callistephus chinensis
			AG49315.1	AF315465	Pelargonium x hortorum
			CA90266.1	Z22545	Petunia x hybrida
			BA903438.1	D14588	Petunia x hybrida
			CA932274.1	AF081575	Petunia x hybrida
			CA909850.1	AF011862	Catharanthus roseus
			CA960265.1	Z22544	Petunia x hybrida
			AG494300.1	AF313490	Lycianthes rantonnei
			BA903440.1	D14590	Campanula medium
			CA950645.1	U71654	Solanum melongena
			CA950155.1	X70824	Solanum melongena
			CA950312.1	X70981	Solanum melongena
			SEQ ID NO. 1508		
			BA937246.1	U58971	Nicotiana tabacum
			SEQ ID NO. 1510		
			BA961708.1	U93048	Daucus carota
			BA921965.1	AF028699	Brassica napus









AAK14807.1	AY026342	Physcomitrella patens	AAC49188.2	U29333	Pisum sativum
CAR07547.1	AJ007507	Cichorium intybus x Cichorium endivia	AAG44132.1	AF218296	Pisum sativum
AAK33018.1	I28826	Casuarina glauca	CAC65580.1	X96784	Nicotiana tabacum
RAA03005.1	I23313	Sesbania rostrata	BAI12159.1	D83968	Glycine max
RAA31155.1	AB015719	Pisum sativum	CAC65282.1	AF155332	Petunia x hybrida
RAA31157.1	AB015721	Pisum sativum	CAC64635.1	X95342	Nicotiana tabacum
RAA48005.1	M91077	Medicago sativa	CAC38930.1	AF135485	Glycine max
CBA09090.1	X57733	Medicago truncatula	BAI95490.1	AF022461	Glycine max
RAA31156.1	X14311	Pisum sativum	CAB56742.1	AJ249800	Cicer arietinum
CBA32492.1	X14311	Medicago sativa	BAI13076.1	D86351	Glycine max
AAK32657.1	M56100	Medicago sativa	CAC39458.1	AF014802	Zschornitzia californica
BAK24088.1	AB009844	Pisum sativum	BAI74466.1	AB022733	Glycyrrhiza echinata
CAC31750.1	X13375	Medicago sativa	BAK24243.1	AB001380	Glycyrrhiza echinata
CBA90870.1	Z54159	Vicia faba	CAR70575.1	X09423	Nepeta racemosa
AAK18503.1	U09671	Canavalia lineata	CBA50648.1	X71657	Solanum melongena
CBA90869.1	Z54158	Vicia faba	AAK94587.1	AF022458	Glycine max
CBA90868.1	Z54157	Vicia faba	BAK48072.1	AB028152	Torenia hybrida
CBA31859.1	X13505	Sesbania rostrata	AAC32274.1	AF081575	Petunia x hybrida
CBA32044.1	X13815	Sesbania rostrata	BAK92894.1	AB006790	Petunia x hybrida
CAA38024.1	X54089	Medicago sativa	SEQ ID NO. 1542		
AAK03002.1	M23312	Sesbania rostrata	RAK63814.1	L46848	Glycine max
SEQ ID NO. 1540			AAF34767.1	AF227622	Euphorbia esula
RAK65776.1	U97521	Vitis vinifera	BAA04668.1	D21130	Oryza sativa
RAK65777.1	U97522	Vitis vinifera	CAC63786.1	X93587	Lupinus luteus
BAK03751.1	D16223	Oryza sativa	CAC69256.1	X07959	Zea mays
CBA03142.1	X07130	Solanum tuberosum	SEQ ID NO. 1544		
BAK03749.1	D16221	Oryza sativa	RAK84222.1	AF030301	Helianthus annuus
SEQ ID NO. 1541			CBA39708.1	X56267	Nicotiana tabacum
CBAK3505.1	AJ239051	Cicer arietinum	SEQ ID NO. 1547		
BAK93634.1	AB025016	Lotus japonicus	RAK36697.1	AF075579	Mesembryanthemum crystallinum
CBA41490.1	AJ238439	Cicer arietinum	CAC10358.1	AJ277086	Nicotiana tabacum
CBA10067.1	AJ012581	Cicer arietinum	CBA90633.1	AJ277743	Fagus sylvatica
BAK22422.1	AB001379	Glycyrrhiza echinata	CAC10359.1	AJ277087	Nicotiana tabacum
BAK74465.1	AB022732	Glycyrrhiza echinata	AAK17804.1	AF092431	Lotus japonicus
CBA04117.1	AJ0000478	Helianthus tuberosus	CBA09575.1	AF092987	Fagus sylvatica
CAA04116.1	M32885	Helianthus tuberosus	CAC72341.1	Y11607	Medicago sativa
AAK32913.1	M32885	Persea americana	AAK17805.1	AF092432	Lotus japonicus
RAK09208.1	AF175278	Pisum sativum	AAC36698.1	AF075580	Mesembryanthemum crystallinum



CAA62226.1	X30693	Medicago sativa	BNA39391.1	AB048949	Hordeum vulgare
CAH50597.1	X11593	Lycopersicon esculentum	CAH76131.1	Y16242	Triticum aestivum
CAH37375.1	AT15349	Glycine max	AAH39399.1	LI0346	Oryza sativa
BAH97734.1	AF014502	Asparagus officinalis	CAG516789.1	AJ0301645	Hordeum vulgare
BAH94962.1	AB042103	Asparagus officinalis	CAG54982.1	AF284857	Calystegia sepium
CAB65334.1	AJ250121	Picea abies	CMA57128.1	X98504	Triticum aestivum
BAH06335.1	D30653	Populus kitakamiensis	AAH51902.1	AF068119	Zea mays
BAH77387.1	AB024437	Scutellaria baicalensis	CMA77817.1	Z11772	Secale cereale
CAH71490.1	Y10464	Spinacia oleracea	CMA91091.1	Z25871	Zea mays
ADH43561.1	AF155124	Gossypium hirsutum	BNA02286.1	D12882	Ipomoea batatas
AFH63027.1	AF244924	Spinacia oleracea	BNA92921.1	AF001539	Oryza sativa
BAH41444.1	D90116	Amoracia rusticana	AAH0828.1	D10122	Ipomoea batatas
CAH76680.1	Y17192	Cucurbita pepo	AAH38148.1	AF139501	Prunus americana
BAH95584.1	AF001073	Oryza sativa	AAH64177.1	AF012345	Hordeum vulgare
BAH90365.1	AF001081	Oryza sativa	AAH09793.1	D63574	Hordeum vulgare
CAB94692.1	AJ242742	Ipomoea batatas	CAA40105.1	X56785	Secale cereale
ABH4181.1	L36157	Medicago sativa	SFQ ID NO. 1551		
CAC21393.1	AJ401276	Zea mays	CMA11219.1	AJ223281	Manihot esculenta
ADH37427.1	AF149277	Phaseolus vulgaris	CAH49184.1	U040402	Hevea brasiliensis
CRA71488.1	Y10462	Spinacia oleracea	CAB22334.1	Z29091	Manihot esculenta
CAC62227.1	X30694	Medicago sativa	CMA11428.1	AJ223506	Manihot esculenta
CAB62615.1	X31232	Mercurialis annua			
CAH66037.1	X37351	Populus balsamifera subsp. trichocarpa	SFQ ID NO. 1552		
			CAH3458.1	AF082033	Hemerocallis hybrid cultivar
			AAH28600.1	AF247134	Limonchites douglasii
			AAH49186.1	U37088	Simmondsia chinensis
			AAH72178.1	AF009563	Brassica napus
			AAH36054.1	U50771	Brassica napus
			CAH11266.1	AF333040	Dunaliella salina
			CAH11898.1	Y11007	Brassica juncea
			CAC17746.1	AJ291728	Zea mays
			CAH25109.1	AF054497	Brassica napus
			CAH25110.1	AF054498	Brassica napus
			CAH25111.1	AF054499	Brassica rapa
			CAH25112.1	AF054500	Brassica oleracea
			SFQ ID NO. 1553		
			CAH07328.1	D38132	Cucurbita sp.
			AAH82743.1	U19481	Citrus maxima
			BNA32557.1	AB017159	Daucus carota

CMA59010.1	X84228	Beta vulgaris	CMA67600.1	X99210	Lycopersicon esculentum
CMA59008.1	X84226	Nicotiana tabacum	CMA64614.1	X95296	Lycopersicon esculentum
CMA52976.1	X75082	Solanum tuberosum	RAF22256.1	AF161711	Pimpinella brachycarpa
RAF82390.1	AF000367	Oryza sativa	BA88822.1	AB028650	Nicotiana tabacum
CMA59009.1	X84227	Populus x generosa	CMA67575.1	X99134	Lycopersicon esculentum
			CMA78387.1	Z13997	Petunia x hybrida
			CMA66952.1	X98308	Lycopersicon esculentum
SEQ ID NO. 1555			ABA41101.1	U72762	Nicotiana tabacum
RAF67052.1	AF190303	Adiantum raddianum	BA83350.0	W73028	Zea mays
RAF08959.1	AF122051	Solanum tuberosum	CMA636774.1	AF210616	Zea mays
RAF67053.1	AF190304	Adiantum raddianum	BA888223.1	AB028651	Nicotiana tabacum
RAF67050.1	AF190301	Secale cereale	BA888224.1	AB028652	Nicotiana tabacum
RAF67051.1	AF190302	Secale cereale	BA888221.1	AB028649	Nicotiana tabacum
RAF08961.1	AF122053	Solanum tuberosum			
RAF08960.1	AF122052	Solanum tuberosum			
RAF81731.1	AB029160	Glycine max			
RAF81730.1	AB029159	Glycine max			
CMA72217.1	Y11414	Oryza sativa	SEQ ID NO. 1557		
RAF81732.1	AB029161	Glycine max	BA803763.1	DL6247	Nicotiana sylvestris
RAF67052.1	X95297	Lycopersicon esculentum	RAF40306.1	AF156667	Vigna radiata
RAF08962.1	AF122054	Solanum tuberosum	RAF27189.1	AF271892	Pisum sativum
BA888223.1	AB028651	Nicotiana tabacum	CMA68193.1	X99937	Spinacia oleracea
CMA78387.1	Z13997	Petunia x hybrida	BA8020980.1	AF079782	Zea mays
ABA41101.1	U72762	Nicotiana tabacum	BA895705.1	AB042644	Oryza sativa
BA840790.1	AB058642	Lilium hybrid division I	BA895704.1	AB042643	Oryza sativa
BA813574.1	AC037425	Oryza sativa	BA848833.1	AC084218	Oryza sativa
BA888221.1	AB028649	Nicotiana tabacum			
CMA72185.1	Y11350	Oryza sativa	SEQ ID NO. 1559		
BA888224.1	AB028652	Nicotiana tabacum	BA883699.1	AB011968	Oryza sativa
BA888222.1	AB028650	Nicotiana tabacum	BA883688.1	AB011967	Oryza sativa
BA881733.2	AB029162	Glycine max	RAF22219.1	AF141378	Zea mays
CMA71992.1	Y11105	Pisum sativum	BA834675.1	AB011670	Triticum aestivum
RAF19618.1	AF336285	Gossypium hirsutum	CMA73068.1	Y12465	Sorghum bicolor
RAF19611.1	AF336278	Gossypium hirsutum	CMA73067.1	Y12464	Sorghum bicolor
RAF34434.1	AF172282	Oryza sativa	BA862593.1	AF004947	Oryza sativa
CMA67575.1	X99134	Lycopersicon esculentum	BA896628.1	AF002482	Oryza sativa
BA808983.1	AF026332	Oryza sativa	RAF23582.1	AF128443	Glycine max
BA819615.1	AF336282	Gossypium hirsutum	BA805649.1	D26602	Nicotiana tabacum
			CMA71142.1	Y10036	Cucumis sativus
SEQ ID NO. 1556			BA899323.1	AF062479	Oryza sativa
CMA78386.1	Z13996	Petunia x hybrida	CMA65244.1	X95997	Solanum tuberosum
CMA83399.1	AJ006292	Antirrhinum majus	CMA57898.1	X82548	Hordeum vulgare
			BA807813.1	AJ007990	Hordeum vulgare
			CMA46556.1	X65606	Hordeum vulgare

RA05457.1	055768	Oryza sativa	CA054045.1	X76535	Solanum tuberosum
RA46554.1	X65604	Hordeum vulgare	AA084202.2	AF029256	Kosteletzkya virginica
RA000239.1	U73938	Nicotiana tabacum	BA047275.1	X66737	Nicotiana plumbaginifolia
RA000240.1	U73939	Nicotiana tabacum	BA037150.1	AB022442	Vicia faba
BA13608.1	D88399	Oryza sativa	BA080134.1	D45189	Zostera marina
RA660195.1	AC084763	Oryza sativa	CA069824.1	AJ271439	Prunus persica
BA19573.1	AB002109	Oryza sativa	CA069823.1	AJ271438	Prunus persica
RA68962.1	L38855	Glycine max	RA035314.2	S78323	Vicia faba
RA058346.1	U29035	Trifolium aestivum	CA089495.1	AJ328292	Medicago truncatula
RA27340.1	AF196020	Vicia faba	CA089494.1	AJ328291	Medicago truncatula
AA096325.1	M94726	Trifolium aestivum	AA034173.1	M60166	Lycopersicon esculentum
CA081443.1	Z26846	Mesembryanthemum crystallinum	CA029436.1	AJ310524	Vicia faba
CA006503.1	AJ005373	Cratogeomys plantagineum	AA034098.1	M80490	Nicotiana plumbaginifolia
RA21062.1	AF216527	Dunaliella tertiolecta	AA060276.1	U09989	Nicotiana plumbaginifolia
CA089202.1	Z49233	Chlamydomonas eugametos	AA034094.1	M80489	Nicotiana plumbaginifolia
SEQ ID NO. 1565			AA034052.1	M27888	Nicotiana plumbaginifolia
BA090357.1	AF001080	Oryza sativa	CA059799.1	X85804	Phaseolus vulgaris
BA085438.1	AF000616	Oryza sativa	AA098344.1	AF275745	Lycopersicon esculentum
BA078746.1	AB023482	Oryza sativa	AA055399.1	AF179442	Lycopersicon esculentum
AA043550.1	AF211532	Nicotiana tabacum	BA006629.1	D31843	Oryza sativa
BA096875.1	AB045121	Oryza sativa	CA054046.1	X76536	Solanum tuberosum
SEQ ID NO. 1570			CA029435.1	AJ310523	Vicia faba
CA068234.1	X99572	Brassica oleracea	AA046187.1	AF156683	Nicotiana plumbaginifolia
CA028435.1	AF195028	Glycine max	CA052107.1	X73901	Dunaliella bioculata
CA028436.1	AF195029	Glycine max	AA049042.1	U54690	Dunaliella acidophila
CA031896.1	AF145478	Mesembryanthemum crystallinum	AA031799.1	AV029190	Tillium longiflorum
CA063790.1	X93592	Dunaliella bioculata	AA081348.1	U38965	Oryza sativa
BA090510.2	AF001111	Oryza sativa	CA032118.1	AF308816	Vicia faba
RA011617.1	AF050495	Lycopersicon esculentum	AA097591.1	AF308815	Hordeum vulgare
AA041318.1	M96324	Lycopersicon esculentum	CA034099.1	AF263917	Lycopersicon esculentum
RA011618.1	AF050496	Lycopersicon esculentum	CA032119.1	M80491	Nicotiana plumbaginifolia
AA073985.1	AF096871	Zea mays	CA032119.1	AF308817	Hordeum vulgare
AA058910.1	U82966	Oryza sativa	SEQ ID NO. 1571		
CA046188.1	AF156691	Nicotiana plumbaginifolia	AA034236.1	M94863	Vigna radiata
CA059800.1	X85805	Zea mays	CA081749.1	Z27235	Solanum tuberosum
BA017186.1	U71248	Lycopersicon esculentum	AA022109.1	AF119410	Lupinus albus
BA001059.1	D10207	Oryza sativa	AA022112.1	AF119414	Lupinus albus
AA046186.1	AF156679	Nicotiana plumbaginifolia	BA076388.1	AB007639	Pyrus pyrifolia
AA041898.1	U84891	Mesembryanthemum crystallinum	CA001401.1	Z77854	Phalaenopsis sp.
			CA086187.1	AJ277161	Carica papaya

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AAAF61647.1	AF190634	Nicotiana tabacum	AAA34002.1	M67449	Glycine max
BAA89009.1	AB027455	Petunia x hybrida	CAC00580.1	AJ298992	Fagus sylvatica
BAA930339.1	AB033758	Citrus unshiu	AAK11734.1	AJ027437	Arachis hypogaea
BAA36423.1	AB013598	Verbena x hybrida	AAF34436.1	AF172282	Oryza sativa
BAA36421.1	AB013596	Perilla frutescens	AAF66615.1	AF142596	Nicotiana tabacum
BAA98390.1	AF287143	Brassica napus	CAA08995.1	AF010091	Brassica napus
BAA36420.1	AB013597	Perilla frutescens	BAA06538.1	D31737	Nicotiana tabacum
AAAF21086.1	AF021218	Foraythia x intermedia	AAK11674.1	AF339747	Lophopyrum elongatum
BAA12737.1	D85186	Gentiana triflora	BAA05648.1	D26601	Nicotiana tabacum
CAA59450.1	X85138	Lycopersicon esculentum	BAA3496.1	AF131222	Lophopyrum elongatum
AAAF199453	AF000372	Sorghum bicolor	AAK21965.1	AF028699	Brassica napus
BAA89008.1	AB027454	Petunia x hybrida	AAK09771.1	U67422	Zea mays
BAA8101.1	AB047090	Vitis vulpifera	AAF76189.1	AF271206	Poa hybrid cultivar
BAA81682.1	AF000371	Vitis vulpifera	AAF59905.1	AF197946	Glycine max
BAA41022.1	AB047095	Vitis vulpifera	AAF78021.1	AF238477	Oryza sativa
BAA41020.1	AB047093	Vitis vulpifera	AAAF3323.1	AF244689	Glycine max
BAA41021.1	AB047094	Vitis vulpifera	CA851834.1	00069	Oryza sativa
BAA41019.1	AB047092	Vitis vulpifera	AAAF6916.1	AF164020	Oryza sativa
BAA83484.1	AB031274	Scutellaria baicalensis	CAA08997.1	AJ010093	Brassica napus
BAA41025.1	AB047098	Vitis vulpifera	AAF91322.1	AF244888	Glycine max
BAA41023.1	AB047096	Vitis vulpifera	CAA61510.1	X89226	Oryza sativa
BAA90787.1	AB038248	Ipomoea batatas	AAF59906.1	AF197947	Glycine max
BAA19659.1	AB002818	Perilla frutescens	AAF91324.1	AF244890	Glycine max
BAA41018.1	AB047091	Vitis labrusca x Vitis vulpifera	SEQ ID NO. 1578		
AAAF36552.1	U32643	Nicotiana tabacum	BAA24448.1	AB003516	Panax ginseng
AAAF28304.1	AF346432	Nicotiana tabacum	CAA06770.1	AJ005928	Brassica napus
BAA41024.1	AB047097	Vitis vulpifera	CAA06773.1	AJ005931	Brassica napus
BAA41026.1	AB047099	Vitis vulpifera	CAA06223.1	AJ004923	Lycopersicon esculentum
CAA31855.1	X13500	Zea mays	SEQ ID NO. 1579		
BAA86473.1	AF028237	Ipomoea purpurea	AAAF60566.1	X68113	Brassica napus
CAA54614.1	X77464	Manihot esculenta	AAAF1800.1	AF026382	Fraxinus x ananassa
SEQ ID NO. 1577			CAA59472.1	X85206	Catharatus roseus
AAAF30591.1	AF305911	Oryza sativa	BAA16431.1	AB041519	Nicotiana tabacum
AAAF31142.1	AF305912	Hordeum vulgare	BAA16428.1	AB041516	Nicotiana tabacum
AAAF03037.1	AJ005077	Lycopersicon esculentum	BAA99575.1	AB037109	Daucus carota
AAAF66250.1	AF096250	Lycopersicon esculentum	BAA95941.1	AB035125	Nicotiana tabacum
AAAF10519.1	AF110519	Lycopersicon esculentum	AAAF9369.1	U34333	Phaseolus vulgaris
AAAF110518.1	AF110518	Lycopersicon esculentum	AAAF7903.1	AF248055	Glycine max
AAAF0056.1	AF110516	Rosa hybrid cultivar	BAA13150.1	D86629	Nicotiana tabacum
AAAF30005.1	AY029067				

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CMA50224.1	X70879	Hordeum vulgare	AA011617.1	AF050495	Lycopersicon esculentum
CMA50222.1	X70877	Hordeum vulgare	AA034138.1	M96324	Lycopersicon esculentum
BAA23337.1	D88617	Oryza sativa	AA011618.1	AF050496	Lycopersicon esculentum
CMA64614.1	X95296	Lycopersicon esculentum	BAA90510.2	AF001111	Oryza sativa
CMA50221.1	X70876	Hordeum vulgare	AF073965.1	AF096871	Zea mays
AAK19611.1	AF336278	Gossypium hirsutum	AA058910.1	U82968	Oryza sativa
BAA81732.1	AB029161	Glycine max	CAB60823.1	AJ271438	Prunus persica
BAA81731.1	AB029160	Glycine max	CAC20436.1	AJ310524	Vicia faba
BAA81730.1	AB029159	Glycine max	AA046186.1	AJ156691	Nicotiana plumbaginifolia
CMA72185.1	Y11350	Oryza sativa	AA046186.1	AF156679	Nicotiana plumbaginifolia
AA013574.1	AC037425	Oryza sativa	CAA47215.1	X66737	Nicotiana plumbaginifolia
BAA81733.2	AB029162	Glycine max	AA017186.1	U72148	Lycopersicon esculentum
BAA88221.1	AB028649	Nicotiana tabacum	AA029712.1	AF140049	Oryza sativa
CMA78387.1	Z13997	Petunia x hybrida	CAA59600.1	X85805	Zea mays
BAA88224.1	AB028652	Nicotiana tabacum	AA035314.2	S79323	Vicia faba
BAA23338.1	D88618	Oryza sativa	AA034173.1	M60166	Lycopersicon esculentum
AAK19617.1	AF336284	Gossypium hirsutum	CMA54045.1	X76535	Solanum tuberosum
CMA72217.1	Y11414	Oryza sativa	BA060276.1	U09989	Zea mays
CMA67600.1	X99210	Lycopersicon esculentum	AA084202.2	AF029256	Kosteletzkya virginica
AAK19615.1	AF336282	Gossypium hirsutum	AA034098.1	M60490	Nicotiana plumbaginifolia
BAA81736.1	AB029165	Glycine max	CAA59799.1	X85804	Phaseolus vulgaris
BAA88222.1	AB028650	Nicotiana tabacum	AA041898.1	U84891	Nesembryanthemum crystallinum
AA041101.1	U72762	Nicotiana tabacum	AA055399.1	AF179442	Lycopersicon esculentum
BAA88223.1	AB028651	Nicotiana tabacum	AA059344.1	AF275745	Lycopersicon esculentum
AAK19618.1	AF336285	Gossypium hirsutum	CMA54046.1	X76536	Solanum tuberosum
Y11351		Oryza sativa	CAA54052.1	M27888	Nicotiana plumbaginifolia
CMA66952.1	X98308	Lycopersicon esculentum	CAB60824.1	AJ271439	Prunus persica
AAK19617.1	AF161711	Pimpinella brachycarpa	BA06629.1	D31843	Nicotiana plumbaginifolia
CMA64615.1	X95297	Lycopersicon esculentum	AA034094.1	U54690	Oryza sativa
CAA67575.1	X99134	Lycopersicon esculentum	AA037199.1	AF029190	Dunaliella acidophila
AAK19621.1	L19495	Zea mays	CAC29435.1	AJ310523	Lilium longiflorum
CMA65525.1	X96749	Oryza sativa	BA037150.1	AB022442	Vicia faba
AA033500.1	M73028	Zea mays	BAA01058.1	D10207	Oryza sativa
BAA23339.1	D88619	Oryza sativa	CA085494.1	AJ132891	Medicago truncatula
SEQ ID NO. 1594			CA085494.1	AJ132892	Medicago truncatula
AF195028		Glycine max	AA046187.1	AF156683	Nicotiana plumbaginifolia
AA028436.1	AF195029	Brassica oleracea	BA081834.1	D45189	Zostera marina
CMA68234.1	X99972	Nesembryanthemum crystallinum	CA052107.1	X73901	Dunaliella bioculata
AA031896.1	AF145478		AA034099.1	M60491	Nicotiana plumbaginifolia
CMA63790.1	X93592	Dunaliella bioculata	AA02601.1	U08985	Zea mays



CAA06309.1	AJ005042	Cicer arietinum	LYCOPERSICON ESCULENTUM
CAA54525.1	X77319	Asparagus officinalis	Gossypium hirsutum
AAF67342.1	AZ239795	Vigna radiata	Nicotiana tabacum
CAA10128.1	AJ002687	Cicer arietinum	Gossypium hirsutum
AA661470.1	AJ004812	Mangifera indica	Fragaria x ananassa
AA773737.1	AJ0064786	Carica papaya	Nicotiana tabacum
AA721626.1	AJ023847	Lycopersicon esculentum	Nicotiana tabacum
CAA10174.1	AJ012797	Lycopersicon esculentum	Lycopersicon esculentum
CAA10175.1	AJ012798	Lycopersicon esculentum	Nicotiana tabacum
AA70821.1	AF154420	Lycopersicon esculentum	Nicotiana tabacum
AA752984.1	AF020390	Lycopersicon esculentum	Solanum tuberosum
CAA59162.1	X84684	Brassica oleracea	Lycopersicon esculentum
CAA10173.1	AJ012796	Lycopersicon esculentum	Lycopersicon esculentum
AA70822.1	AF154421	Lycopersicon esculentum	Nicotiana tabacum
BAE21492.1	AB046543	Pyrus pyrifolia	Solanum tuberosum
CAA09457.1	AJ011010	Cicer arietinum	Lycopersicon esculentum
AA767341.1	AF229794	Vigna radiata	Lycopersicon esculentum
CAA07236.1	AJ006771	Cicer arietinum	Lycopersicon esculentum
CAA10064.1	AJ012578	Carica papaya	Lycopersicon esculentum
AA728739.1	AF079874	Carica papaya	Lycopersicon esculentum
AA712249.1	AF184080	Prunus americana	Lycopersicon esculentum
CAA06310.1	AJ005043	Cicer arietinum	Lycopersicon esculentum
AA45549.1	AF159124	Vitis vinifera	Lycopersicon esculentum
SEQ ID NO. 1602			
AAA86950.1	U10044	Pisum sativum	Oryza sativa
AAA86952.1	U10046	Pisum sativum	Oryza sativa
CAA50035.1	X76702	Pisum sativum	Oryza sativa
AAA86951.1	U10045	Pisum sativum	Oryza sativa
AAA96367.1	AB043975	Panax ginseng	Oryza sativa
CB57298.1	Z30162	Solanum tuberosum	Medicago truncatula
CAA48289.1	X68202	Pyrobolus stellata	Oryza sativa
AAA86949.1	U10043	Pisum sativum	Nicotiana tabacum
SEQ ID NO. 1603			
AA701250.1	AF188832	Fragaria x ananassa	Glycine soja
AA733305.1	U99609	Gossypium hirsutum	Glycine max
AA733302.1	AJ005347	Cicer arietinum	Glycine tomentella
CAA63710.1	X93308	Capsicum annuum	Glycine tomentella
CAA10261.1	AJ130956	Capsicum annuum	Glycine tomentella
CAA10210.1	AJ130829	Capsicum annuum	Glycine tomentella
AA737494.1	AF079232		
AA767993.1	UT3746		
AA724540.1	AF113545		
AA767994.1	UT3747		
AA79922.1	U19941		
AA75213.1	X14972		
AA76769.1	X17502		
AA797493.1	AF079231		
AA75214.1	X14973		
AA76770.1	AF1503		
CB592956.1	AF06197		
AA71830.1	X98244		
CAA66900.2	X98244		
CAA52903.1	X74947		
AA75308.1	X15036		
CAA66901.1	X98245		
AA732468.1	AF308589		
AA72183.1	X11348		
AA732467.1	AF308588		
SEQ ID NO. 1604			
AA717067.1	AF254558		
BA769800.1	AB028185		
BA769799.1	AB028184		
BA769798.1	AB028183		
BA769797.1	AB028182		
BA769801.1	AB028186		
AA768626.1	AF254124		
BA769802.1	AB028187		
BA778417.1	AB021178		
SEQ ID NO. 1606			
AA709209.1	U38247		
AA737440.1	AF007600		
AA751418.1	AF007611		
AA751419.1	AF007515		
AA751412.1	AF007506		
AA737441.1	AF007601		
AA737443.1	AF007603		
AA737444.1	AF007604		
AA751415.1	AF007510		

AA037438.1	AY007598	Glycine canescens	AA02257.1	AF043091	Hordeum vulgare
AA015416.1	AY007511	Glycine tomentella	CAC34554.1	Y07600	Pistacia vera
AA037448.1	AY007608	Glycine tomentella	AA0701698.1	AF181460	Hordeum vulgare
AA091486.1	AF287476	Glycine tomentella	AA02256.1	AF043090	Hordeum vulgare
AA037446.1	AY007606	Glycine tomentella	AA02261.1	AF043095	Hordeum vulgare
AA037445.1	AY007605	Glycine tomentella	AA033361.1	X15287	Hordeum vulgare
AA037452.1	AY007612	Glycine tomentella	CBA44787.1	X63061	Fisum sativum
AA015413.1	AY007507	Glycine tomentella	AA02258.1	AF043092	Hordeum vulgare
AA037442.1	AY007602	Glycine tomentella	CBA47478.1	X63062	Fisum sativum
AA037447.1	AY007607	Glycine tomentella	AA060172.1	AF236067	Phaseolus guineensis
AA015417.1	AY007514	Glycine tomentella	CBA44789.1	X63063	Fisum sativum
AA009208.1	X38246	Glycine soja	AA02252.1	AF043086	Hordeum vulgare
AA037439.1	AY007599	Glycine canescens	AA0701699.1	AF181461	Hordeum vulgare
AA015414.1	AY007509	Glycine tabacina	AA051381.1	U91970	Fisum sativum
AA037449.1	AY007609	Glycine tomentella	AA01692.1	AF181454	Hordeum vulgare
AA037450.1	AY007610	Glycine tomentella	CBA51278.1	X72748	Hordeum vulgare
AA037454.1	AY007614	Glycine tomentella	AA01695.1	AF181457	Hordeum vulgare
AA037453.1	AY007613	Glycine tomentella	CBA33360.1	X15286	Hordeum vulgare
CBA42221.1	X59700	Helianthus annuus	AA01691.1	AF181453	Hordeum vulgare
AA049862.1	U72767	Phaseolus vulgaris	AA02255.1	AF043089	Hordeum vulgare
CBA31590.1	X13202	Gossypium hirsutum	SEQ ID NO. 1612		
AA012980.1	AY007517	Glycine tomentella	AMB36543.1	U77935	Phaseolus vulgaris
AA012981.1	AY007518	Glycine tomentella	SEQ ID NO. 1614		
AA012982.1	AY007519	Glycine tomentella	AA010204.1	AF030260	Vicia sativa
AA012979.1	AY007516	Glycine tomentella	AA033645.1	AF092917	Vicia sativa
AA015521.1	U47607	Picea glauca	AA017470.1	AF123609	Triticum aestivum
AA015541.1	AF004810	Glycine max	AA031592.1	AY029178	Brassica rapa subsp. pekinensis
CBA45506.1	X64145	Jussiaea indica	CBA41474.1	AD238402	Catharanthus roseus
SEQ ID NO. 1609			AA094586.1	AF022457	Glycine max
AA005921.1	AF031247	Lophophytum elongatum	AA094588.1	AF022459	Glycine max
CAC00637.1	AD271620	Prunus persica	CBA89260.1	249263	Fisum sativum
AA002262.1	AF043096	Hordeum vulgare	AA009208.1	AF175278	Fisum sativum
AAA32952.1	M95810	Hordeum vulgare	AA049188.2	U29333	Fisum sativum
AA016693.1	AF181455	Hordeum vulgare	CBA04117.1	AF000477	Helianthus tuberosus
AA049658.1	U62486	Prunus persica	AA0404116.1	AB001380	Glycyrrhiza echinata
AA049657.1	U34809	Prunus persica	BA024423.1	AB022733	Glycyrrhiza echinata
AA050291.1	AF172263	Prunus dulcis	BA074466.1	L19074	Catharanthus roseus
AF031249		Lophophytum elongatum	AAA17732.1		Lotus japonicus
AA005923.1	AF031250	Lophophytum elongatum	BAA9634.1	AB025016	
AA005924.1		Hordeum vulgare			
AA016694.1	AF181456				

BAF27282.1	AF122821	Capsicum annuum	CAA26229.1	X02382	Zea mays
CBAS4305.1	AF239051	Cicer arietinum	CAA26247.1	X02400	Zea mays
CBAS6048.1	X71637	Solanum melongena	CAA46017.1	X64770	Oryza sativa
BAAB4072.1	AB028152	Torenia hybrida	CBAS38022.1	AF132000	Cratogeomys plantagineum
BAAB7630.1	AB023536	Glycyrrhiza echinata	CAA78747.1	Z15028	Oryza sativa
CAA72208.1	Y11404	Zea mays	AAAF5966.1	AZ653384	Saccharum officinarum
CAA74231.1	X81829	Zea mays	CAA46701.1	X65871	Hordeum vulgare
BBAB12433.1	AB025030	Coptis japonica	CAA04543.1	AB020117	Triticum aestivum
SEQ ID NO. 1620			BBAB8904.1	AB022091	Citrus unshiu
CAA41774.1	X59046	Oryza sativa	BBAB8981.1	AB025778	Citrus unshiu
BAAB9049.1	AB029401	Citrus unshiu	CAA04512.1	AJ001071	Pisum sativum
AAAB34196.1	L19762	Lycopersicon esculentum	CAA76057.1	Y16091	Daucus carota
BAAB8905.1	AB022092	Citrus unshiu	CBAB38021.1	AF131999	Cratogeomys plantagineum
BAAB28641.1	U73588	Gossypium hirsutum	CAA57499.1	X81974	Beta vulgaris
CAA49428.1	X69773	Vicia faba	CAA47264.1	X66728	Hordeum vulgare
CAA09681.1	AJ011535	Lycopersicon esculentum	SEQ ID NO. 1621		
AAAB97572.1	U24088	Solanum tuberosum	AAAB69317.1	AF012861	Petroselinum crispum
CAA09593.1	AJ011319	Lycopersicon esculentum	AAAF7216.1	AF231351	Nicotiana tabacum
CBAB40794.1	AJ131943	Medicago truncatula	CAA67782.1	X99405	Nicotiana tabacum
AAAB17867.1	AF049487	Medicago sativa	CBAB52708.1	AJ010712	Solanum tuberosum
CBAB40795.1	AJ131964	Medicago truncatula	CBAB52685.1	AJ132346	Dunaliella bioculata
CBAB5640.1	X96339	Tulipa gesneriana	CBAB58775.1	X83923	Solanum tuberosum
AAAB97571.1	U24087	Solanum tuberosum	CAA03941.1	AJ000184	Spinacia oleracea
CAA63122.1	X92378	Alnus glutinosa	CAA03953.1	AJ000182	Spinacia oleracea
CAA33514.1	L22296	Zea mays	CAA04994.1	AJ001772	Nicotiana tabacum
CAA65639.1	X96338	Tulipa gesneriana	CAA03940.1	AJ000183	Spinacia oleracea
AAAB41682.1	L03366	Oryza sativa	AAAD14526.1	AF097663	Mesembryanthemum crystallinum
CAA75793.1	Y15802	Hordeum vulgare	AAAB41552.1	U18238	Medicago sativa subsp. sativa
CAA49451.1	X69931	Hordeum vulgare	CAA52442.1	X74421	Solanum tuberosum
CAA76056.1	Y16090	Daucus carota	AAAB69318.1	AF012862	Petroselinum crispum
CAA53081.1	X75332	Daucus carota	AAAB69319.1	AF012863	Petroselinum crispum
AAAB33515.1	L33244	Zea mays	CAA04992.1	AJ001769	Nicotiana tabacum
BAAB20799.1	AB045710	Pyrus pyrifolia	CAA04993.1	AJ001770	Nicotiana tabacum
CAA03935.1	AJ000153	Triticum aestivum	BAAB7662.1	AB029454	Triticum aestivum
CAA39323.1	AF030231	Glycine max	BAAB97662.1	AB029455	Triticum aestivum
BAAB1108.1	I02666	Vigna radiata	BAAB7664.1	AB029456	Triticum aestivum
CAA09910.1	AJ012080	Pisum sativum	BAAB23802.1	AF260736	Cucurbita pepo
BAAB28107.1	AF079851	Pisum sativum	CBAB66330.1	AJ279688	Brutella pendula
CBAB32462.1	AJ311496	Pisum sativum	BAAB2155.1	AB011441	Triticum aestivum
CAA57881.1	X82504	Chenopodium rubrum	CAA06200.1	AJ004900	Glycine max





[illegible]

CMA66037.1	X97351	Populus balsamifera subsp.	SEQ ID NO. 1633	Cucumis sativus	397
trichocarpa				Lycopersicon esculentum	
BAA82306.1	AB027752	Nicotiana tabacum	BAA85819.1	Nicotiana tabacum	
BA94692.1	AJ242742	Ipomoea batatas	AB031396.1	Zea mays	
CMA92497.1	AP001383	Oryza sativa	BA812113.3	Lycopersicon esculentum	
BAA92422.1	AP001366	Oryza sativa	BA813718.1	Palaeosiphon x hortorum	
CMA60796.1	X57564	Amoracia rusticana	BA031397.1	Malus x domestica	
BAA66339.1	G30653	Populus kitakamiensis	BA037577.1	Pelargonium x hortorum	
BA848184.1	L24120	Linum usitatissimum	BA031122.1	Nicotiana tabacum	
CMA66034.1	X97348	Populus balsamifera subsp.	BA037576.1	Lycopersicon esculentum	
trichocarpa			BA097160.1	Prunus persica	
CMA65334.1	AJ250121	Picea abies	AA085479.1	Lycopersicon esculentum	
CMA62597.1	X91172	Raphanus sativus	AA022113.1	Passiflora edulis	
CMA66036.1	X97350	Populus balsamifera subsp.	BA037136.1	Brassica oleracea	
trichocarpa			AAC39497.1	Nangifera indica	
AAF63025.1	AF244922	Spinacia oleracea	BAF61919.1	Lycopersicon esculentum	
CMA66035.1	X97349	Populus balsamifera subsp.	AA02214.1	Cucumis melo var. reticulatus	
trichocarpa			BA18937.1	Cucumis sativus	
CMA99519.1	AF007211	Glycine max	BA085817.1	Lycopersicon esculentum	
AA06183.1	M37636	Arachis hypogaea	BA039386.1	Vigna radiata	
BA84764.1	D84400	Oryza sativa	AA03598.1	Oryza sativa	
CMA49819.1	AF014468	Oryza sativa	BA072193.1	Pisum sativum	
CMA71492.1	Y10466	Spinacia oleracea	AA094773.1	Pisum sativum	
CMA71493.1	Y10467	Spinacia oleracea	CA006723.1	Phalaenopsis sp. 'True Lady'	
BA06334.1	G30652	Populus kitakamiensis	BA026899.1	Passiflora edulis	
BA06334.1	D83224	Populus nigra	BA037137.1	Cucumis sativus	
BA07389.1	AB024439	Scutellaria baicalensis	BA085818.1	Solanum tuberosum	
CMA62615.1	X912323	Mercurialis annua	BA012777.1	Nicotiana tabacum	
AA037427.1	AF149277	Phaseolus vulgaris	BA096765.2	Nusa acuminata	
CMA62226.1	X90693	Medicago sativa	AA030300.1	Rosa hybrida cultivar	
BA092967.1	AP001551	Oryza sativa	AA041977.1	Brassica oleracea	
AA02554.1	L37790	Stylosanthes humilis	CA038057.1	Rumex palustris	
CMA62227.1	X90694	Medicago sativa	CA031157.1	Rumex palustris	
BA014143.1	D90115	Amoracia rusticana	CA069646.1	Rumex palustris	
CA049821.1	AF014470	Oryza sativa	BA068819.1	Dianthus caryophyllus	
BA07241.1	D38051	Populus kitakamiensis	CA096745.1	Citrus sinensis	
CMA99487.1	AJ276227	Hordeum vulgare	BA076294.1	Prunus mume	
CMA50597.1	X71593	Lycopersicon esculentum	BA090551.1	Prunus mume	
BA03911.1	D16442	Oryza sativa	BA031028	Prunus mume	
CMA67121.1	Y19023	Lycopersicon esculentum	BA031029		



AAFI9880.1	AF271193	Oryza sativa	CAA30261.1	X07280	Nicotiana plumbaginifolia
AAFI3270.1	AC079890	Oryza sativa	U72253	U72253	Oryza sativa
CAAG3222.1	X92489	Glycine max	AAAB8794.1	U01900	Solanum tuberosum
CAAG0717.1	AO038620	Craterostigma plantaginifolium	AAAC32939.1	M62907	Hordeum vulgare
SEQ ID NO. 1637			AAAC13399.1	AF030771	Hordeum vulgare
AAAD16016.1	AF080545	Nepenthes alata	AAAG7436.1	U22147	Hevea brasiliensis
SEQ ID NO. 1638			AAAD03881.1	U72250	Oryza sativa
CAAG5987.2	X97322	Ficus sativum	AAAD33861.1	AF141654	Nicotiana tabacum
BAAG7209.1	D38012	Oryza sativa	AAAG3617.1	M80604	Lycopersicon esculentum
SEQ ID NO. 1639			CAAB38443.1	AF133470	Hevea brasiliensis
ARC49528.1	U56834	Petroselinum crispum	AAAG3542.1	M59443	Nicotiana tabacum
AAAD7591.1	AF121354	Petroselinum crispum	AAAG63539.1	M60402	Nicotiana tabacum
BAAG7358.1	AB020023	Nicotiana tabacum	AAAG63541.1	M59442	Nicotiana tabacum
AAAD16139.1	AF096299	Nicotiana tabacum	AAAG63540.1	M60403	Nicotiana tabacum
ARC49527.1	U48831	Petroselinum crispum	CAAG37289.1	X53129	Phaseolus vulgaris
CAAG8326.1	Z48429	Avena fatua	CAAG57255.1	X81560	Nicotiana tabacum
ARC49529.1	U58540	Petroselinum crispum	CAAB91554.1	AJ727900	Vitis vinifera
AAAD16138.1	AF096298	Nicotiana tabacum	AAAB19111.1	U01902	Solanum tuberosum
ARC37515.1	L44134	Cucumis sativus	AAAB86541.1	AF030166	Oryza sativa
CAAB89331.1	Z48431	Nicotiana tabacum	AAAC39322.1	U96096	Hordeum vulgare
AAAF61864.1	AF192771	Nicotiana tabacum	AAAD33880.1	AF141653	Nicotiana tabacum
BAAG7069.1	AB035271	Marrubium chamomilla	SEQ ID NO. 1641		
AAAF61865.1	AF193770	Nicotiana tabacum	AAAF97510.1	AF724626	Lycopersicon esculentum
SEQ ID NO. 1640			AAAD30549.1	AF136580	Lycopersicon esculentum
AAAD10386.1	U72255	Oryza sativa	AAAF97509.1	AF246266	Lycopersicon esculentum
BAAG89481.1	AB029462	Salix gilgiana	AAAD30548.1	AF136579	Ficus sativum
CAAB85903.1	AJ251646	Ficus sativum	AAAC17441.1	AF065444	Thlaspi caerulescens
CAAB49513.1	X69887	Brassica napus	AAAF61374.1	AF007281	Medicago truncatula
AAAB8772.2	AF001523	Musa acuminata	AAAG09635.1		
AAAF08679.1	AF004838	Musa acuminata	SEQ ID NO. 1642		
CAAG2271.1	Z28697	Nicotiana tabacum	AAAG43549.1	AF211531	Nicotiana tabacum
AAAB18928.1	U01901	Solanum tuberosum	AAAG43548.1	AF211530	Nicotiana tabacum
AAAC19114.1	AF067863	Solanum tuberosum	CAAB96899.1	AJ251249	Catharanthus roseus
AAAG90953.1	U30323	Triticum aestivum	AAAG69900.1	AJ251250	Catharanthus roseus
AAAG3618.1	M80608	Lycopersicon esculentum	AAAF63205.1	AF245119	Mesembryanthemum crystallinum
AAAB1643.1	M23120	Nicotiana plumbaginifolia	BAAB16083.1	AF036883	Oryza sativa
AAAB34078.1	M63634	Nicotiana plumbaginifolia	BAAG32448.1	AF037183	Oryza sativa
			CAAC12822.1	AJ299252	Nicotiana tabacum
			BAAB07321.1	D38123	Nicotiana tabacum



RAAC60465.1	U07362	Pertunia x hybrida	Zeae mayas
RAAC24018.1	D63888	Nicotiana glauca	Zeae mayas
RAAF05729.1	AF191732	Solanum chacoense	Zeae mayas
RAAD56217.1	AF176535	Solanum chacoense	Picea mariana
SEQ ID NO. 1649			Aegilops tauschii
RAACAC49528.1	U56834	Petroselinum crispum	Zeae mayas
RAENAA77358.1	AF006233	Nicotiana tabacum	Zeae mayas
RAAF06229	RAAD246139.1	Nicotiana tabacum	Zeae mayas
RAAF121354	RAAD7591.1	Petroselinum crispum	Alpestris myosuroides
RAACAC37515.1	L44134	Cucumis sativus	Zeae mayas
RAACAC49527.1	U48831	Petroselinum crispum	Zeae mayas
RAACAC8326.1	Z48429	Avena fatua	Alpestris myosuroides
RAACAC49529.1	U58540	Petroselinum crispum	Alpestris myosuroides
RAACAC8331.1	Z48431	Avena fatua	Zeae mayas
RAADAD16138.1	AF096298	Nicotiana tabacum	Zeae mayas
RAAF18664.1	AF193771	Nicotiana tabacum	Zeae mayas
RAAF87069.1	AF035271	Matricaria chamomilla	Zeae mayas
RAAF61863.1	AF193770	Nicotiana tabacum	Glycine max
SEQ ID NO. 1650			Glycine max
RAARAS5440.1	AF000616	Oryza sativa	Glycine max
RAACAM33493.1	AJ245900	Oryza sativa	Picea mariana
SEQ ID NO. 1654			Zeae mayas
RAAF87890	AF178990	Vitis riparia	Glycine max
RAAD1854.1	AF178990	Phaseolus vulgaris	Euphorbia esula
RAAB00555.1	U54704		Glycine max
SEQ ID NO. 1659			
RAAF62403.1	AF212183	Nicotiana tabacum	Lotus japonicus
RAAC68848.1	Y07563	Nicotiana tabacum	Lycopersicon esculentum
RAAB97367.1	AF039532	Oryza sativa	Hordeum vulgare
SEQ ID NO. 1665			Prunus dulcis
RAAF22517.1	AF118924	Papaver somniferum	Oryza sativa
RAAF22518.1	AF118925	Papaver somniferum	Brassica napus
RAAF22519.1	AF118926	Papaver somniferum	Cucumis sativus
RAAF22519.1	AF118926	Papaver somniferum	Glycine max
RAAF29773.1	AF159229	Gossypium hirsutum	Glycine max
RAACAF34638.1	AF244695	Zeae mayas	Glycine max
RAAF34795.1	AF243360	Glycine max	Nepenthes alata
RAACAF34642.1	AF244699	Zeae mayas	Prunus dulcis

SEQ ID NO. 1668	Brassica napus	CAA09419.1	A010942	Lycopersicon esculentum
AAK21965.1	Phaseolus vulgaris	CAA68813.1	Y07520	Chlorella kessleri
AAK21872.1	Oryza sativa	CAB52689.1	AU132224	Lycopersicon esculentum
AAK33915.1	Oryza sativa	BAB19864.1	AB052885	Oryza sativa
BAK2556.1	Populus nigra	CAA39036.1	X55349	Chlorella kessleri
AAK11674.1	Lophopyrum elongatum	CAA7324.1	X6856	Nicotiana tabacum
AAK3496.1	Lophopyrum elongatum	AAAT9761.1	L08196	Ricinus communis
AAK03090.1	Oryza sativa	CAA96079.1	L08188	Picea abies
ABK93834.1	Zea mays	CAA53192.1	X75440	Chlorella kessleri
ABK66615.1	Nicotiana tabacum	CAA70777.1	Y09590	Vitis vinifera
AAK25966.1	Nicotiana tabacum	CAA04511.1	A001061	Vicia faba
AF302082	Oryza sativa	CAB07812.1	Z93775	Oryza sativa
AAK34428.1	Ipomoea trifida	BAB19863.1	AB052884	Oryza sativa
AAK23542.1	Oryza sativa	BAB19862.1	AB052883	Medicago truncatula
BAK94516.1	Brassica oleracea	BAB06594.1	U38651	Oryza sativa
CAA73134.1	Brassica napus	BAB95398.1	AP000615	Beta vulgaris
BAK2354.1	Brassica napus	AAK55054.1	AF173555	Lycopersicon esculentum
AAK1628.1	Oryza sativa	CAB52690.1	AU132225	
CAB51834.1				
BAK06538.1				
D31737				
CAA73133.1	Brassica oleracea	AAK00510.1	AF265172	Phaseolus vulgaris
Y12530	Brassica napus subsp. napus	CAA7692.1	Z73295	Catharanthus roseus
AAK245479	Brassica napus	CAB51834.1	00069	Oryza sativa
CAB89179.1	Brassica oleracea	AAK1965.1	AY028699	Brassica napus
BAK2837.1	Brassica oleracea	AAK91323.1	AF244889	Glycine max
AAK33000.1	Brassica oleracea	AAK5906.1	AF197947	Glycine max
AAK79355.1	Brassica oleracea	AAK91324.1	AF244890	Glycine max
CAA67145.1	Brassica oleracea	AAK91322.1	AF244888	Glycine max
CAA74661.1	Brassica rapa	AAK5905.1	AF197946	Glycine max
AAK6232.1	Brassica rapa	AAK11567.1	AF318491	Lycopersicon hirsutum
BAK23676.1	Brassica rapa	AAK11569.1	AF318493	Lycopersicon hirsutum
D38564	Brassica oleracea	AAK76306.1	AF220602	Lycopersicon pimpinellifolium
AAK07577.2		AAK48914.1	U02271	Lycopersicon pimpinellifolium
Y14286		ABA47423.1	U59315	Lycopersicon hirsutum
BAK07576.1		AAK11566.1	AF318490	Maltus x domestica
D38563		AAK26318.1	AF053127	Zea mays
		AAK09771.1	U07422	Lycopersicon esculentum
		AAK47421.1	U59316	Lycopersicon esculentum
		AAK76313.1	AF220603	Oryza sativa
		AAK03090.1	ACU073405	
SEQ ID NO. 1669	Apium graveolens var. dulce			
AAK43998.1	Nicotiana tabacum			
AAK74566.1	Spinnacia oleracea			
AAK74565.1	Solanum tuberosum			
AAK74567.1	Zea mays			
AAK74568.1				





AD54936.1	AF141374	Petroselinum crispum	AB41324.1	UB3591	Medicago sativa
AF00131.1	AF147091	Fragaria x ananassa	CAC17793.1	AFJ301671	Nicotiana sylvestris
AF05376.1	AF105426	Cynodon dactylon	AB41325.1	UB3592	Medicago sativa
BA05846.1	AF002070	Oryza sativa	AB41326.1	S43926	Phaseolus vulgaris
AA032986.1	M95835	Brassica napus	AA03756.1	M13968	Nicotiana tabacum
AF69783.1	AF135143	Arabid lemmonii	CAA35945.1	X515949	Nicotiana tabacum
AA069775.1	AF135135	Arabid drummondii	AA034070.1	M51173	Nicotiana tabacum
AF69792.1	AF135152	Arabid parishii	CAA45822.1	X64519	Nicotiana tabacum
AA05375.1	AF105425	Cynodon dactylon			
AF69785.1	AF135145	Arabid lignifera	SEQ ID NO. 1680		
AF69780.1	AF135130	Arabid holboellii	AP00615		Oryza sativa
AF69781.1	AF135141	Arabid gunnisoniana	CBA06083.1	Z63834	Hordeum vulgare
AF69777.1	AF135137	Arabid fecunda	CBA74909.1	Y14573	Hordeum vulgare
AF69790.1	AF135150	Arabid microphylla	CAA06487.1	AS005341	Linum usitatissimum
AF69797.1	AF135117	Arabid lignifera			
AF69772.1	AF135132	Arabid gunnisoniana	SEQ ID NO. 1681		
AA05782.1	AF135142	Halimolobos perplexa var. perplexa	BA02107.1	AB022693	Nicotiana tabacum
AF69784.1	AF135144	Arabid lemmonii	AC31956.1	AF080395	Pimpinella brachycarpa
AF69788.1	AF135148	Arabid lyallii	AD05974.1	AF121353	Petroselinum crispum
BA03750.1	D16222	Oryza sativa	BA077383.1	AB020590	Nicotiana tabacum
AF69776.1	AF135136	Arabid fecunda	CA049527.1	U48831	Petroselinum crispum
CA04107.1	X56787	Oryza sativa	CA088326.1	Z48429	Avena fatua
BA013369.1	AB048531	Psophocarpus tetragonolobus	BA06139.1	AF096299	Nicotiana tabacum
AF69778.1	AF135138	Arabid glabra	AA016138.1	AF026890	Nicotiana tabacum
AF69786.1	AF135146	Arabid lignifera	AC37515.1	I44134	Cucumis sativus
BA02826.1	AB023464	Arabid gemmifera	AA016138.1	AF096298	Nicotiana tabacum
AF69773.1	AF135133	Arabid blepharophylla	AA049529.1	U58540	Petroselinum crispum
AF69791.1	AF135151	Arabid microphylla	CA088331.1	Z48431	Avena fatua
AF69793.1	AF135153	Arabid parishii	CA049528.1	U56834	Petroselinum crispum
CA039535.1	X56063	Oryza sativa	AA036568.1	AF204925	Petroselinum crispum
BA03749.1	D16221	Oryza sativa	BA016432.1	AB041520	Nicotiana tabacum
AF69799.1	AF135149	Arabid microphylla	BA077358.1	AB020023	Nicotiana tabacum
CA071402.1	X10373	Medicago truncatula	AA036569.1	AF204926	Petroselinum crispum
AC16010.1	AF061805	Elaeagnus umbellata	AD027591.1	AF121354	Petroselinum crispum
CA033626.1	X76041	Triticum aestivum	CA066338.1	AF273697	Betula pendula
BA033971.1	X008892	Nicotiana tabacum	AF61864.1	AF193771	Nicotiana tabacum
CA047921.1	X67693	Solanum tuberosum	BA087069.1	AB035271	Matricaria chamomilla
AF69790.1	AF135140	Arabid glabra	AA016863.1	AF193770	Nicotiana tabacum
BA018519.1	AB051578	Secale cereale			
AA051377.1	L37289	Oryza sativa	SEQ ID NO. 1682		



AF03355.1	AF132671	Nicotiana plumbaginifolia	SEQ ID NO. 1689	Oryza sativa
BA025197.1	AB012138	Lycopersicon esculentum	BA05400.1	Hordeum vulgare
AC078470.1	AF067731	Solanum tuberosum	CA04909.1	Hordeum vulgare
AC025777.1	AF072694	Oryza sativa	CAB06083.1	Linum usitatissimum
AC094973.1	AF039201	Pinus caribaea	CA006487.1	
CA071051.1	Y09916	Triticum aestivum		
AC051146.1	AF049065	Pinus radiata	SEQ ID NO. 1690	
CA034417.1	AF0311624	Pisum sativum	AA03280.1	Datura stramonium
			AAA33281.1	Datura stramonium
			BA05844.1	Rhoscyanus niger
			CAC34420.1	Solanum tuberosum
			BA013547.1	Rhoscyanus niger
			AA033282.1	Datura stramonium
			BA05845.1	Rhoscyanus niger
			CA052307.1	Solanum tuberosum
			CAC1980.1	Solanum tuberosum
			CA05866.1	Cuphea lanceolata
			CA05793.1	Brassica napus
			AA02767.1	Hordeum vulgare
			AA02766.1	Brassica napus
			AA020114.2	Nicotiana tabacum
			CA047176.1	Allium porrum
			AA02764.1	Oryza sativa
			AA078100.1	Nicotiana tabacum
			CA047177.1	
			SEQ ID NO. 1691	
			AA055979.1	Lycopersicon esculentum
			CA04230.1	Zea mays
			AA055980.1	Zea mays
			SEQ ID NO. 1695	
			AA02464.1	Daucus carota
			AF068627.1	Triticum aestivum
			CA040204.1	Triticum aestivum
			AA03402.1	Zea mays
			AA049719.1	Glycine max
			AA03614.1	Cleistanthus plantagineum
			AF068628.1	Triticum aestivum
			CA003925.1	Hordeum vulgare
			SEQ ID NO. 1688	
			AA05440.1	Sorghum bicolor
			AF072289.1	Manihot esculenta
			AA03415.1	Manihot esculenta
			AF069494	Sinapis alba
			AF066543.1	Triglochin maritimum
			AF066544.1	Triglochin maritimum
			BA02894.1	Petunia x hybrida
			AF022458	Glycine max
			AF081575	Petunia x hybrida
			AC032274.1	Nicotiana tabacum
			AA056282.1	Solanum melongena
			CA04635.1	Pisum sativum
			AA044132.1	Pisum sativum
			AA042913.1	Persea americana
			BA084071.1	Antirrhinum majus
			AA038930.1	Glycine max
			AA017562.1	Eustoma grandiflorum
			CA055580.1	Nicotiana tabacum
			BA03634.1	Lotus japonicus
			AF022461	Glycine max
			BA012159.1	Glycine max
			AA014962.1	Brassica napus
			BA074465.1	Glycyrrhiza echinata
			BA022422.1	Glycyrrhiza echinata
			AA014961.1	Brassica napus
			CA041171.1	Helianthus tuberosus
			AA04593.1	Helianthus tuberosus
			AF022464	Glycine max
			BA013076.1	Glycine max
			CA050647.1	Solanum melongena



CAA66037.1	X97351	Populus balsamifera subsp.	CBA2794.1	A238754	Citrus clementina x Citrus
trichocarpa			reticulata		
AD37430.1	AF149280	Phaseolus vulgaris	D10002		Pisum sativum
CAA66035.1	X30633	Populus kitakamiensis	BA000886.1		Pisum sativum
CAA66034.1	X37348	Populus balsamifera subsp.	BA000887.1		Pisum sativum
trichocarpa			U43338		Rubus idaeus
AA02554.1	L37790	Stylosanthes humilis	AAF40224.1	AF237955	Trifolium subterraneum
BAA07421.1	D38051	Populus kitakamiensis	AAA17993.1		Petroselinum crispum
BAA06334.1	D30652	Populus kitakamiensis	CAA57057.1	X81159	Petroselinum crispum
CAA66036.1	X97350	Populus balsamifera subsp.	AAF40223.1	AF237954	Rubus idaeus
trichocarpa			CAA68938.1	Y07654	Petroselinum crispum
BAA11853.1	D83225	Populus nigra	CAA57056.1	X81158	Petroselinum crispum
CBA94692.1	A2242742	Ipomoea batatas	CBA60719.1	A2508336	Cicer arietinum
BAA02367.1	AP001551	Oryza sativa	CAA05251.1	AJ002221	Digitalis lanata
CBA62226.1	X30693	Medicago sativa	RA078457.1	AF036948	Prunus avium
BAA11852.1	D83224	Populus nigra	RA023367.1	D85850	Daucus carota
RA052777.1	AF049881	Linum usitatissimum	CAA68256.1	X39897	Bromheadia finlaysoniana
BA07389.1	AB024439	Scutellaria baicalensis	AAA33805.1	L11747	Populus x generosa
BA07602.1	L07554	Linum usitatissimum	BAA4328.1	D83075	Lithospermum erythrorhizon
RA098519.1	AF007211	Glycine max	CAA43226.1	X18099	Oryza sativa subsp. japonica
CAA66035.1	X97349	Populus balsamifera subsp.	CAA41169.1	X38180	Medicago sativa
trichocarpa			AAA34176.1	M90692	Lycopersicon esculentum
CAA40796.1	X57564	Amoracia rusticana	BAA07860.1	D43802	Populus kitakamiensis
CAA59487.1	X85230	Triticum aestivum	AAA84889.1	U39792	Pinus taeda
BAA48184.1	L24120	Linum usitatissimum	CAA73065.1	Y12461	Helianthus annuus
BAA08499.1	D49551	Oryza sativa	BAA95629.1	AB042520	Catharanthus roseus
CAA62227.1	X30694	Medicago sativa	BAA05643.1	D26596	Camellia sinensis
AA037427.1	AF149277	Phaseolus vulgaris	BAA24929.1	D83076	Lithospermum erythrorhizon
BAA06183.1	M37636	Arachis hypogaea	BAA21643.1	D30656	Populus kitakamiensis
AA024438		Scutellaria baicalensis	CAA37122.1	X52953	Glycine max
CAA49819.1	AF014468	Oryza sativa	AAA34122.1	M84466	Nicotiana tabacum
CAA71493.1	Y10467	Spinacia oleracea	AAA95900.1	AB008200	Nicotiana tabacum
BAA0391.1	D16442	Raphanus sativus	CBA2793.1	L36822	Stylosanthes humilis
RA049821.1	AF014470	Oryza sativa	CAA42793.1	A238753	Citrus clementina x Citrus
CAA71491.1	Y10465	Spinacia oleracea	reticulata		
SEQ ID NO. 1713			AF325496		Ipomoea nil
BA000885.1	D10001	Pisum sativum	RA049585.1	X78269	Nicotiana tabacum
AAK15640.1	AF326116	Agastache rugosa	CAA55075.1	D17467	Nicotiana tabacum
			BAA22963.1	AB008199	Nicotiana tabacum
			AAA34179.2	M83314	Lycopersicon esculentum
			BAA11459.1	D78640	Ipomoea batatas
			AAA33389.1	M29232	Ipomoea batatas









CAA31519.1	X13128	Brassica napus	CAA38252.1	X54377	Pisum sativum
CAA49803.1	Y00337	Brassica rapa	AA899846.1	AF043099	Coffea eugenioides
CAA68475.1	Y00418	Brassica rapa	AA899844.1	AF043097	Coffea canephora
AA821541.1	S84968	Brassica rapa	AA897081.1	AF042072	Coffea arabica
CAA31514.1	X13123	Brassica napus	AA899845.1	AF043098	Coffea condensis
AA839495.1	AF041386	Fragaria x ananassa			
CAA31518.1	X13127	Brassica napus	SEQ ID NO. 1726		
AA805224.1	AF08777	Gossypium hirsutum	CAA31227.1	X72676	Brassica juncea
AA846394.1	AF083950	Cosylandrum sativum	AA83147.1	AF057563	Nicotiana glutinosa
CAA71885.1	Y10994	Casuarina glauca	CAB60722.1	AJ012551	Citrus sinensis
AA821921.1	M63799	Hordeum vulgare	CAB60721.1	AJ012550	Citrus sinensis
AA84714.1	X77620	Cuphea lanceolata	AA897614.1	U18056	Lycopersicon esculentum
AA821198.1	AF127796	Cypripedium chinense	AA897615.1	U18057	Lycopersicon esculentum
AA832922.1	M58754	Hordeum vulgare	CAA67118.1	X98492	Nicotiana tabacum
CAA64542.1	X95253	Cuphea vulgare	AA833275.1	M66619	Dianthus caryophyllus
AA832924.1	M24426	Hordeum vulgare	BA834923.1	AB013100	Lycopersicon esculentum
CAA54715.1	X77621	Cuphea lanceolata	CB840831.1	AJ012696	Citrus sinensis
AA832923.1	M24425	Hordeum vulgare	CAA1855.1	X59135	Lycopersicon esculentum
AA832920.1	M58753	Hordeum vulgare	CAA1856.1	X59145	Lycopersicon esculentum
CAA54716.1	X77622	Cuphea lanceolata	AA89809.1	U68216	Carica papaya
AA836288.1	X52065	Spinacia oleracea	AA870885.1	U88971	Pearlgronium x hortorum
CAA41024.1	X57956	Zea mays	AA804199.1	AF016459	Pisum sativum
CAA31515.1	X13124	Spinacia oleracea	BA833375.1	AB006804	Cucumis sativus
AA834023.1	M17636	Brassica rapa	BA816433.1	AB041521	Solanum tuberosum
AAK00695.1	AF229423	Brassica oleracea	AA815777.1	AF061605	Nicotiana glutinosa
AAK00698.1	AF229426	Brassica napus	BA890549.1	AB031026	Prunus mume
AAK00690.1	AF229418	Brassica oleracea	AA822109.1	AF119411	Lupinus albus
AAK00699.1	AF229427	Brassica oleracea	AA831446.1	AF057562	Nicotiana glutinosa
AAK00696.1	AF229424	Brassica rapa	CAA09477.1	AJ011095	Citrus sinensis
AAK00697.1	AF229425	Brassica oleracea			
CAA65138.1	X95895	Zea mays	SEQ ID NO. 1727		
AAK00692.1	AF229420	Brassica napus	CAA09853.1	AJ011893	Nicotiana tabacum
AAK00693.1	AF229421	Brassica napus	CB806337.1	AJ002589	Lycopersicon esculentum
AAK00694.1	AF229422	Brassica rapa	CB80540.1	AJ132929	Medicago sativa
AAK00691.1	AF229419	Brassica napus	CB81334.1	X88864	Medicago sativa
			BA833153.1	AB008188	Pisum sativum
			CB860336.1	AJ002588	Lycopersicon esculentum
		Flaveria pringlei	CB81788.1	AJ245415	Lycopersicon esculentum
		Flaveria pringlei	CAA09854.1	AJ011894	Nicotiana tabacum
		Flaveria pringlei	CB81223.1	AJ250398	Antirrhinum majus
		Hordeum x Triticum	CB861222.1	AJ250397	Antirrhinum majus
CAA5353.1	Z56879				
CAA91000.1	Z54239				
AA81076.1	Z25857				
AA82711.1	AF024589				

CAB60838.1	A002590	Lycopersicon esculentum	BAA90357.1	AF001080	Oryza sativa
CAB0769.1	AJ011776	Chenopodium rubrum	BAA5438.1	AF000616	Oryza sativa
CAB40541.1	AJ132930	Medicago sativa	BAA90806.1	AF001168	Oryza sativa
CAB71244.1	Y10162	Chenopodium rubrum			
CAB09552.1	AJ011892	Nicotiana tabacum	SEQ ID NO. 1729		Nicotiana tabacum
CAB61221.1	AJ250396	Antirrhinum majus	BAB94619.1	AF032386	
CAB63450.1	X29364	Nicotiana tabacum			
CAB48675.1	X68741	Medicago sativa	SEQ ID NO. 1730		
CAB46643.1	AJ243453	Lycopersicon esculentum	BAB97366.1	AF039531	Oryza sativa
BAA66629.1	AB024987	Oryza sativa			
BAA20426.1	D89636	Nicotiana tabacum	SEQ ID NO. 1731		
CAB81558.1	Z37978	Nicotiana tabacum	BAA03094.1	D13987	Brassica napus
CAB63541.1	X32965	Nicotiana tabacum	BAB80714.1	AF008939	Gossypium hirsutum
CAB77269.1	AJ133722	Pisum sativum	CAA88829.1	Z48966	Flaveria pringlei
CAB63753.1	X93467	Nicotiana tabacum	RAG17619.1	AF248080	Flaveria trinervia
BAA20410.1	D86385	Catharanthus roseus	CAA24269.1	X90982	Solanum tuberosum
CAB31989.1	U24194	Lupinus luteus	CBA47437.1	X67053	Solanum tuberosum
AD31790.1	AF126107	Lupinus luteus	CBA45505.1	X64144	Flaveria pringlei
CAB1232.1	Z26331	Glycine max	RAG17618.1	AF248079	Flaveria trinervia
CBA46532.1	X62820	Glycine max	CAA1758.1	X59016	Nicotiana tabacum
CAA44188.1	X62303	Glycine max	BAA23419.1	AB008540	Glycine max
CAB50013.1	U50064	Zea mays	CAB65171.1	AJ243417	Lycopersicon esculentum
CAA57556.1	X82036	Oryza sativa	AD31452.1	AF135371	Lotus corniculatus
BAA09467.1	D50871	Glycine max	CAB65170.1	AJ243416	Lycopersicon esculentum
CBA46642.1	AJ243452	Lycopersicon esculentum	BAA01560.1	D10717	Glycine max
BAA33154.1	AB008189	Pisum sativum	AA318633.1	L49175	Amaranthus hypochondriacus
CAC24245.1	U44857	Lupinus luteus	CAA55700.1	X79090	Picea abies
AD31791.1	AF126108	Lupinus luteus	CAC28225.1	AJ286750	Sesbania rostrata
CAA44631.1	X62819	Daucus carota	CAA43601.1	X61304	Flaveria trinervia
BAA20412.1	D86387	Catharanthus roseus	CAA09807.1	AJ011844	Solanum tuberosum
CAB71243.1	Y10161	Chenopodium rubrum	CAC31072.1	Z25853	Flaveria australasica
CAA99990.1	Z75660	Sesbania rostrata	AA33164.1	M66661	Saccharum sp.
AA51560.1	L25406	Brassica napus	CAA03100.1	D13998	Glycine max
CBA46644.1	AJ243454	Lycopersicon esculentum	CAA93209.1	Z68125	Amaranthus hypochondriacus
BAA20236.1	U10076	Zea mays	CAA45504.1	X64143	Flaveria trinervia
CAB58998.1	AJ250315	Petunia x hybrida	CAB28444.1	AF268382	Phaseolus vulgaris
			CAA31956.1	X13660	Mesembryanthemum crystallinum
SEQ ID NO. 1728			AB46618.1	M30366	Medicago sativa
CAB4350.1	AF211532	Nicotiana tabacum	RAB41903.1	L39371	Medicago sativa
BAA78746.1	AB023482	Oryza sativa	AA42288.1	AF268091	Chloris gayana
BAA96875.1	AB045121	Oryza sativa	CAA09588.1	AJ011302	Vicia faba

[illegible]









AAA59212.1	L31374	Sinapis alba	AAAC1839.1	AF025430	Papaver somniferum
CAA05728.1	AJ002893	Oryza sativa	SEQ ID NO. 1766		
AAAF1786.1	AF036239	Euphorbia esula	AAF19196.1	AF206320	Musa acuminata
AAAB63582.1	AF009004	Pelargonium x hortorum	AAAF63756.1	AF243475	Vitis vinifera
AAAB63581.1	AF009003	Pelargonium x hortorum	AAAF19195.1	AF206319	Musa acuminata
AAAC03741.1	D16204	Nicotiana sylvestris	CAA63496.1	X92943	Musa acuminata
AAAB66885.1	AF100580	Oryza sativa	AAAF70735.1	Y09541	Zinnia elegans
AAAB63589.1	AF009411	Oryza sativa	AAAF1208.1	U63550	Fragaria x ananassa
AAAD48471.1	AF169205	Glycine max	AAAB6241.1	U41472	Medicago sativa
CAA34343.1	X61121	Zea mays	CAA76330.1	X67158	Nicotiana tabacum
BA923156.1	B9007819	Citrus unshiu	CAA43414.1	X61102	Nicotiana tabacum
BA03743.1	D16206	Nicotiana sylvestris	CAA43413.1	X61101	Nicotiana tabacum
AAAC61787.1	AF031933	Euphorbia esula	CAA47631.1	X67159	Nicotiana tabacum
AAAB65412.1	AF011331	Oryza sativa	SEQ ID NO. 1767		
AAAC0863.1	X57663	Sorghum bicolor	AAAD5566.1	AF110784	Volvox carteri f. nagariensis
AAAB61213.1	AF001894	Oryza sativa	AAAD0269.1	AF036939	Chlamydomonas reinhardtii
AAAF60329.1	AF191305	Medicago sativa	AAAC49896.1	AF027727	Chlamydomonas reinhardtii
AAAF01176.1	AF315811	Triticum aestivum	AAAD28260.1	AF131223	Datisca glomerata
BAAL12064.1	D83696	Nicotiana sylvestris	AAAI19650.1	U11496	Triticum aestivum
AAAC46233.1	X65117	Nicotiana plumbaginifolia	CAAC21230.1	AJ277379	Triticum turgidum subsp. durum
AAA79045.1	U34742	Spinacia oleracea	CAAC21228.1	AJ277377	Triticum turgidum subsp. durum
SEQ ID NO. 1760			CAAC21231.1	AJ277378	Triticum turgidum subsp. durum
CAA69936.1	Y08680	Alnus glutinosa	AAAB05641.1	U41385	Ricinus communis
AAAB90947.1	AF022915	Triticum aestivum	CAA7575.1	Z11499	Medicago sativa
SEQ ID NO. 1762			CAAC21231.1	AJ277380	Triticum turgidum subsp. durum
AAAD17487.1	AF049347	Berberis stolonifera	CAAC21229.1	AJ277378	Triticum turgidum subsp. durum
BAE20352.1	S65550	Eschscholzia californica	BAAB18780.1	AB047268	Cucumis sativus
AAAC39358.1	AF005655	Eschscholzia californica	BAAS92322.1	AB039278	Oryza sativa
AAAC01039.1	AF025430	Papaver somniferum	CAA72092.1	Y11209	Nicotiana tabacum
SEQ ID NO. 1763			SEQ ID NO. 1769		
AAAB96221.1	AF002094	Oryza sativa	AAAF74566.1	AF215852	Nicotiana tabacum
AAAD2141.1	AF123503	Nicotiana tabacum	AAAG43998.1	AF215857	Apium graveolens var. dulce
CAA42636.1	X60033	Glycine max	AAAF74565.1	AF215851	Spinacia oleracea
SEQ ID NO. 1765			AAAF74567.1	AF215854	Zea mays
AAAD17487.1	AF049347	Berberis stolonifera	AAAF74567.1	AF215853	Solanum tuberosum
BAE20352.1	S65550	Eschscholzia californica	CAA47324.1	X66856	Nicotiana tabacum
AAAC39358.1	AF005655	Eschscholzia californica	CAA04511.1	AJ001061	Vitis vinifera
AAAC39358.1	AF005655	Eschscholzia californica	CAA66594.1	U38651	Medicago truncatula
			CAA09419.1	AJ010942	Lycopersicon esculentum



CAB52689.1	AU132224	Lycopersicon esculentum	AAC97157.1	U69482	Picea mariana
CAAT07077.1	Y09590	Vitis vinifera	AAC97146.1	U46582	Picea mariana
BAB19864.1	AB052885	Oryza sativa	AAD09342.1	AF023615	Pinus radiata
CAB68183.1	Y07520	Chlorella kessleri	AAAF04972.1	AF091458	Oryza sativa
CAB39036.1	X55349	Chlorella kessleri	AAK21254.1	AF335241	Petunia x hybrida
CAB3192.1	X75440	Chlorella kessleri	ABAB00081.1	L46400	Zea mays
BAB19863.1	AB052884	Oryza sativa	AAK10626.1	AF035379	Lolium temulentum
CAB06079.1	Z83829	Picea abies	CAB97354.1	AJ249146	Hordeum vulgare
BAB19862.1	AB052883	Oryza sativa	AAAB09864.1	L37528	Oryza sativa
AAD50504.1	AF173655	Beta vulgaris	AAK10625.1	AF035378	Lolium temulentum
CAB52688.1	AJ132223	Lycopersicon esculentum	ABAB64250.1	U78782	Oryza sativa
BAB5398.1	AF000615	Oryza sativa	SEQ ID NO. 1778		Nicotiana tabacum
CAB52690.1	AJ132225	Lycopersicon esculentum	CAA66123.1	X79675	Populus x generosa
CAC28219.1	AJ286744	Sesbania rostrata	CAAB1273.2	X72743	Glycine max
ABAB1347.1	AF000355	Medicago truncatula	AAA73555.1	L36436	Liriodendron aestivalium
ABAB1346.1	AF000354	Medicago truncatula	AAA3464.1	M60599	Liriodendron aestivalium
AAK01938.1	AF026321	Lupinus albus	AAAB4263.1	M60598	Colix lacryma-jobi
BAB21562.1	AB042951	Nicotiana tabacum	AAAB04021.1	U61730	Oryza sativa
SEQ ID NO. 1772		Oryza sativa	AAAF4718.1	L77616	Zea mays
BAB08199.1	AF0002539	Oryza sativa	CAA37038.1	X32850	Nicotiana sylvestris
BAB96760.1	AF0002521	Oryza sativa	CAA55659.1	X75060	
SEQ ID NO. 1776		Sinapis alba	SEQ ID NO. 1780		Hordeum vulgare
ABAB4526.1	U25696	Nicotiana tabacum	AAD09343.1	AF026538	
CAAB3782.1	X76188	Pimpinella brachycarpa	SEQ ID NO. 1783		Petroselinum crispum
AAK33475.1	AF082531	Pimpinella brachycarpa	AAK49528.1	U56834	Petroselinum crispum
AAK21257.1	AF335244	Petunia x hybrida	AAC49527.1	U48831	Petroselinum crispum
AAK21251.1	AF335238	Petunia x hybrida	AAD27591.1	AF121354	
AAK21252.1	AF335239	Petunia x hybrida	SEQ ID NO. 1785		Petroselinum crispum
AAK43199.1	AF112148	Zea mays	ABAB35658.1	AF204925	Nicotiana tabacum
AAK21253.1	AF335240	Petunia x hybrida	BAB7058.1	AB028022	Nicotiana tabacum
BAB19886.1	AF000328	Oryza sativa	BAB6031.1	AB026890	Nicotiana tabacum
AAK19968.1	AF207699	Elaeagnus guineensis	BAB1639.1	AF096299	Nicotiana tabacum
ABAB3639.1	AF114965	Oryza sativa	BAB7383.1	AB020590	Nicotiana tabacum
ABAB6907.1	U76726	Pinus radiata	AAK23898.1	AF193802	Oryza sativa
AAK43200.1	AF112150	Zea mays	AAD55974.1	AF121353	Petroselinum crispum
BAB56300.1	AB022665	Gnetum parvifolium	AAK2107.1	AB022693	Nicotiana tabacum
CAAB56800.1	AJ011675	Oryza sativa	BAB16432.1	AB041520	Nicotiana tabacum
AAD01266.1	AF006210	Pinus resinosa			
AAK97158.1	U69483	Picea mariana			

AF196298	Nicotiana tabacum	AA03202.1	M27821	Zea mays
AF121354	Petroselinum crispum	AA033483.1	M77792	Zea mays
AF193771	Nicotiana tabacum	AA030555.1	U64310	Agrostemma githago
AF204926	Petroselinum crispum	AA030554.1	U64309	Agrostemma githago
AF193770	Nicotiana tabacum	CA033817.1	X15819	Oriza sativa
		AA030508.1	X84102	Cichorium intybus
		CA033998.1	L23853	Glycine max
	Brassica napus	CA040090.1	X56771	Chlorella vulgaris
D38220	Brassica napus	AA017694.1	X64646	Zea mays
D38219	Lycopersicon esculentum	AA016242.1	AF077372	Avena strigosa
X14060	Lycopersicon esculentum	AA016242.1	L40147	Hordeum chilense
L11563	Petunia x hybrida	AA016250.1	L40149	Hordeum chilense
AF314093	Ricinus communis	AA016245.1	L40151	Hordeum pusillum
AF314092	Ricinus communis	AA016245.1	L40151	Hordeum pusillum
X14059	Nicotiana tabacum	AAA96247.1	L40153	Hordeum stenotachys
X14058	Nicotiana tabacum			
AAA33114.1	Cucurbita maxima	SEQ ID NO. 1793		
M33154	Solanum tuberosum	AA097526.1	AF042321	Camptotheca acuminata
U95317	Solanum tuberosum	AA097087.1	AF042320	Camptotheca acuminata
U76701	Spinacia oleracea	BA011928.1	AB003491	Oriza sativa
M32600	Spinacia oleracea	AA034381.1	M76685	Zea mays
D86226	Betula pendula	AA034390.1	M76684	Zea mays
X40397	Lotus japonicus	AA034390.1	M76684	Chlamydomonas reinhardtii
X08070	Phaseolus vulgaris	AA034390.1	M76684	Chlamydomonas reinhardtii
U00129	Phaseolus vulgaris	AA034390.1	M76684	Chlamydomonas reinhardtii
U00129	Phaseolus vulgaris	AA034390.1	M76684	Chlamydomonas reinhardtii
X40103	Cichorium intybus	AA034390.1	M76684	Chlamydomonas reinhardtii
AF053369	Cichorium intybus	AA034390.1	M76684	Chlamydomonas reinhardtii
AF053369	Cichorium intybus	AA034390.1	M76684	Chlamydomonas reinhardtii
U13987	Glycine max	SEQ ID NO. 1797		
X57845	Hordeum vulgare	AA094144.1	M68929	Mitochondrion Marchantia
L23854	Glycine max	polymorpha		
X53603	Phaseolus vulgaris	AA032322.1	AF287344	Fuchsia hybrid cultivar Qiu
X53603	Phaseolus vulgaris	94208		
X15820	Oriza sativa	AA032321.1	AF287343	Fuchsia hybrid cultivar Qiu
AF153448	Zea mays	94208		
X57844	Hordeum vulgare			
AF022780	Glycine max	SEQ ID NO. 1799		
U20450	Zea mays	AA041777.1	AF212991	Cucurbita maxima
X60173	Hordeum vulgare	BA017070.1	U54770	Lycopersicon esculentum
AF203033	Chlamydomonas reinhardtii	AA011616.1	AF326277	Hordeum vulgare
X64136	Volvox carteri	AA000946.1	AF318211	Taxus cuspidata
U39931	Chlorella vulgaris	CA049659.1	U74319	Sorghum bicolor
U39930	Chlorella vulgaris	CA041490.1	A0238439	Sorghum bicolor
X06134	Chlorella vulgaris	CA010067.1	AJ012581	Cicer arietinum
U08029	Spinacia oleracea	BA024222.1	AB001379	Cicer arietinum
AF06308	Agrostemma githago	BA074465.1	AB027232	Glycyrrhiza echnata
				Glycyrrhiza echnata



AA06329.1	AF191305	Medicago sativa	BAB32871.1	AB056063	Oryza sativa
BA012064.1	D83696	Nicotiana glauca	CMA50719.1	X71900	Lycopersicon esculentum
AA01176.1	AF315811	Triticum aestivum			
CA00529.1	AJ002894	Oryza sativa			
BA071417.1	U91287	Pisum sativum	SEQ ID NO. 1811		Rosa hybrid cultivar
BA022083.1	D28862	Nicotiana glauca	AA050679.1	S80863	Rosa hybrid cultivar
			BA023136.1	D49385	Rosa hybrid cultivar
			BA023135.1	D49384	Rosa hybrid cultivar
			BA023134.1	D49383	Rosa hybrid cultivar
			BA023133.1	AF247133	Limnathes douglasii
SEQ ID NO. 1808			SEQ ID NO. 1812		
AA00054.1	U54703	Phaseolus vulgaris	AA01707.1	AF199453	Sorghum bicolor
CA07815.1	Z14145	Pisum sativum	AA01684.1	AF190634	Nicotiana tabacum
AA03203.1	U69633	Solanum tuberosum	AA09890.1	AF287143	Brassica napus
AA002259.1	AF043093	Hordeum vulgare	BA093039.1	AB033758	Citrus unshiu
AA01596.1	AF181458	Triticum aestivum	BA099009.1	AB027455	Petunia x hybrida
AA018202.1	U73211	Triticum aestivum	BA036421.1	AB013596	Perilla frutescens
AA018201.1	U73210	Lavatera thuringiaca	BA041018.1	AB047091	Vitis labrusca x Vitis vinifera
AA022689.1	AF044584	Pisum sativum	BA041018.1	AB047091	Vitis labrusca x Vitis vinifera
CA093666.1	A0289610	Hordeum vulgare	BA093484.1	AB031274	Scutellaria baicalensis
AA002252.1	AF043086	Hordeum vulgare	BA041026.1	AB047099	Vitis vinifera
AA01699.1	AF181461	Hordeum vulgare	BA041026.1	AB047097	Vitis vinifera
AA050291.1	AF172263	Prunus dulcis	BA041024.1	AB047093	Vitis vinifera
CA009421.1	AJ010944	Helianthus annuus	BA041020.1	AB047095	Vitis vinifera
CA005713.1	AJ002741	Helianthus annuus	BA041022.1	AB047092	Vitis vinifera
AA060172.1	AF236067	Elaeis guineensis	BA041019.1	AB047098	Vitis vinifera
AA01593.1	U11696	Sorghum bicolor	BA041025.1	AB047096	Vitis vinifera
BA071225.1	AF004807	Glycine max	BA041023.1	AB047094	Vitis vinifera
AA05927.1	U63831	Sorghum bicolor	BA041021.1	AB047094	Vitis vinifera
CA063339.1	X92647	Helianthus annuus	BA021086.1	AF127218	Forsythia x intermedia
CA033364.1	X15290	Zea mays	BA041017.1	AB047090	Vitis labrusca x Vitis vinifera
CA066970.1	X98326	Hordeum vulgare	BA081582.1	AF000371	Vitis vinifera
CA033363.1	X15289	Hordeum vulgare	BA081583.1	AF000372	Vitis vinifera
			BA036423.1	AB013598	Verbena x hybrida
			BA036422.1	AB013597	Perilla frutescens
			BA036652.1	U32643	Nicotiana tabacum
			BA028304.1	AF346432	Nicotiana tabacum
			CA030760.1	X07937	Zea mays
			BA036653.1	U32644	Nicotiana tabacum
			CA028303.1	AF346431	Nicotiana tabacum
			CA031855.1	X13500	Zea mays
			CA030761.1	X07940	Zea mays
			AA016410.1	AF320086	Zea mays
SEQ ID NO. 1810					
AA033710.1	L16777	Petunia x hybrida			
AA033709.1	L16797	Petunia x hybrida			
AA024195.1	AF020425	Nicotiana tabacum			
AA040608.1	U54774	Nicotiana tabacum			
AA018620.1	AF352732	Nicotiana tabacum			
CA039483.1	AF020424	Nicotiana tabacum			
BA032870.1	AB056062	Oryza sativa			
BA032868.1	AB056060	Oryza sativa			
BA032869.1	AB056061	Oryza sativa			



CAAC09575.1	AJ298987	Fagus sylvatica	SEQ ID NO. 1831	Sorghum bicolor
CAAC09576.1	AJ298988	Mesembryanthemum crystallinum	CAAC3067.1	Sorghum bicolor
CAAC09577.1	AJ298989	Lotus japonicus	CAAC3068.1	Oryza sativa
CAAC09578.1	AJ298990	Mesembryanthemum crystallinum	CAAC62493.1	Oryza sativa
CAAC09579.1	AJ298991	Mesembryanthemum crystallinum	AAE22219.1	Zea mays
CAAC09580.1	AJ298992	Mesembryanthemum crystallinum	BAH35688.1	Oryza sativa
CAAC09581.1	AJ298993	Mesembryanthemum crystallinum	BAH35689.1	Oryza sativa
CAAC09582.1	AJ298994	Mesembryanthemum crystallinum	BAH35690.1	Oryza sativa
CAAC09583.1	AJ298995	Mesembryanthemum crystallinum	BAH35691.1	Oryza sativa
CAAC09584.1	AJ298996	Mesembryanthemum crystallinum	BAH35692.1	Oryza sativa
CAAC09585.1	AJ298997	Mesembryanthemum crystallinum	BAH35693.1	Oryza sativa
CAAC09586.1	AJ298998	Mesembryanthemum crystallinum	BAH35694.1	Oryza sativa
CAAC09587.1	AJ298999	Mesembryanthemum crystallinum	BAH35695.1	Oryza sativa
CAAC09588.1	AJ299000	Mesembryanthemum crystallinum	BAH35696.1	Oryza sativa
CAAC09589.1	AJ299001	Mesembryanthemum crystallinum	BAH35697.1	Oryza sativa
CAAC09590.1	AJ299002	Mesembryanthemum crystallinum	BAH35698.1	Oryza sativa
CAAC09591.1	AJ299003	Mesembryanthemum crystallinum	BAH35699.1	Oryza sativa
CAAC09592.1	AJ299004	Mesembryanthemum crystallinum	BAH35700.1	Oryza sativa
CAAC09593.1	AJ299005	Mesembryanthemum crystallinum	BAH35701.1	Oryza sativa
CAAC09594.1	AJ299006	Mesembryanthemum crystallinum	BAH35702.1	Oryza sativa
CAAC09595.1	AJ299007	Mesembryanthemum crystallinum	BAH35703.1	Oryza sativa
CAAC09596.1	AJ299008	Mesembryanthemum crystallinum	BAH35704.1	Oryza sativa
CAAC09597.1	AJ299009	Mesembryanthemum crystallinum	BAH35705.1	Oryza sativa
CAAC09598.1	AJ299010	Mesembryanthemum crystallinum	BAH35706.1	Oryza sativa
CAAC09599.1	AJ299011	Mesembryanthemum crystallinum	BAH35707.1	Oryza sativa
CAAC09600.1	AJ299012	Mesembryanthemum crystallinum	BAH35708.1	Oryza sativa
CAAC09601.1	AJ299013	Mesembryanthemum crystallinum	BAH35709.1	Oryza sativa
CAAC09602.1	AJ299014	Mesembryanthemum crystallinum	BAH35710.1	Oryza sativa
CAAC09603.1	AJ299015	Mesembryanthemum crystallinum	BAH35711.1	Oryza sativa
CAAC09604.1	AJ299016	Mesembryanthemum crystallinum	BAH35712.1	Oryza sativa
CAAC09605.1	AJ299017	Mesembryanthemum crystallinum	BAH35713.1	Oryza sativa
CAAC09606.1	AJ299018	Mesembryanthemum crystallinum	BAH35714.1	Oryza sativa
CAAC09607.1	AJ299019	Mesembryanthemum crystallinum	BAH35715.1	Oryza sativa
CAAC09608.1	AJ299020	Mesembryanthemum crystallinum	BAH35716.1	Oryza sativa
CAAC09609.1	AJ299021	Mesembryanthemum crystallinum	BAH35717.1	Oryza sativa
CAAC09610.1	AJ299022	Mesembryanthemum crystallinum	BAH35718.1	Oryza sativa
CAAC09611.1	AJ299023	Mesembryanthemum crystallinum	BAH35719.1	Oryza sativa
CAAC09612.1	AJ299024	Mesembryanthemum crystallinum	BAH35720.1	Oryza sativa
CAAC09613.1	AJ299025	Mesembryanthemum crystallinum	BAH35721.1	Oryza sativa
CAAC09614.1	AJ299026	Mesembryanthemum crystallinum	BAH35722.1	Oryza sativa
CAAC09615.1	AJ299027	Mesembryanthemum crystallinum	BAH35723.1	Oryza sativa
CAAC09616.1	AJ299028	Mesembryanthemum crystallinum	BAH35724.1	Oryza sativa
CAAC09617.1	AJ299029	Mesembryanthemum crystallinum	BAH35725.1	Oryza sativa
CAAC09618.1	AJ299030	Mesembryanthemum crystallinum	BAH35726.1	Oryza sativa
CAAC09619.1	AJ299031	Mesembryanthemum crystallinum	BAH35727.1	Oryza sativa
CAAC09620.1	AJ299032	Mesembryanthemum crystallinum	BAH35728.1	Oryza sativa
CAAC09621.1	AJ299033	Mesembryanthemum crystallinum	BAH35729.1	Oryza sativa
CAAC09622.1	AJ299034	Mesembryanthemum crystallinum	BAH35730.1	Oryza sativa
CAAC09623.1	AJ299035	Mesembryanthemum crystallinum	BAH35731.1	Oryza sativa
CAAC09624.1	AJ299036	Mesembryanthemum crystallinum	BAH35732.1	Oryza sativa
CAAC09625.1	AJ299037	Mesembryanthemum crystallinum	BAH35733.1	Oryza sativa
CAAC09626.1	AJ299038	Mesembryanthemum crystallinum	BAH35734.1	Oryza sativa
CAAC09627.1	AJ299039	Mesembryanthemum crystallinum	BAH35735.1	Oryza sativa
CAAC09628.1	AJ299040	Mesembryanthemum crystallinum	BAH35736.1	Oryza sativa
CAAC09629.1	AJ299041	Mesembryanthemum crystallinum	BAH35737.1	Oryza sativa
CAAC09630.1	AJ299042	Mesembryanthemum crystallinum	BAH35738.1	Oryza sativa
CAAC09631.1	AJ299043	Mesembryanthemum crystallinum	BAH35739.1	Oryza sativa
CAAC09632.1	AJ299044	Mesembryanthemum crystallinum	BAH35740.1	Oryza sativa
CAAC09633.1	AJ299045	Mesembryanthemum crystallinum	BAH35741.1	Oryza sativa
CAAC09634.1	AJ299046	Mesembryanthemum crystallinum	BAH35742.1	Oryza sativa
CAAC09635.1	AJ2			









AA049527.1	U48831	Petroselinum crispum	AA027282.1	AF122821	Capsicum annuum
AA016139.1	AF096299	Nicotiana tabacum	BA022422.1	AF001379	Glycyrrhiza echinata
AA016138.1	AF096298	Nicotiana tabacum	AA017732.1	L19074	Catharanthus roseus
AA088331.1	Z48431	Avena sativa	CA057423.1	X81829	Zea mays
AA037515.1	L44134	Cucumis sativus	CA072208.1	Y11404	Zea mays
AA061864.1	AF193771	Nicotiana tabacum	RA065543.1	AF140609	Triglochin maritimum
BA087069.1	AF035271	Matricaria chamomilla	CA039454.1	AF014802	Echscholzia californica
AA061863.1	AF193770	Nicotiana tabacum	CA04117.1	AJ000478	Helianthus tuberosus
			CA04116.1	AJ000477	Helianthus tuberosus
			AA032213.1	N32885	Persea americana
SEQ ID NO. 1866		Vitis vinifera	SEQ ID NO. 1870		Brassica rapa subsp. pekin-
CA040834.1	AD055866	Brassica napus	AA021800.1	AF030836	Triticum aestivum
AA013500.1	AF314811	Actinidia deliciosa	CA050004.1	X70666	Triticum aestivum
AA014481.1	U92286	Lycopersicon esculentum	CA055313.1	X96446	Hordeum vulgare
AA067875.1	U60267	Medicago sativa	AA032978.1	M19048	Hordeum vulgare
CA067069.1	X98421	Brassica napus	AA032977.1	N19047	Hordeum vulgare
AA001361.1	AF314812	Oryza sativa	AA032976.1	M19046	Hordeum vulgare
BA019916.1	D49714	Mesembryanthemum crystallinum	AA071137.1	AF004018	Triticum aestivum
AA018862.1	AF067967	Medicago sativa	BA012336.1	D84390	Triticum aestivum
CA067070.1	X98422	Cichorium intybus	CA055315.1	X96448	Triticum aestivum
CA084137.1	AF101424	Triticum aestivum	CA050003.1	X70665	Secale cereale
AA080946.1	AF022914		CA065316.1	X96445	Triticum aestivum
SEQ ID NO. 1867		Vitis riparia	CA065312.1	X96445	Hordeum vulgare
CA056018.1	AF180758	Euphorbia esula	AA091048.1	L36883	Hordeum vulgare
AA034765.1	AF227620		CA029330.1	X05901	Hordeum vulgare
SEQ ID NO. 1868		Triticum aestivum	AA032966.1	M23080	Hordeum vulgare
AA017470.1	AF123609	Brassica rapa subsp. pekinensis	CA057351.1	X81707	Tulipa gesneriana
AA031592.1	AF029178	Vicia sativa	AA078352.1	Z13008	Hordeum vulgare
AA010204.1	AF030260	Vicia sativa	AA091047.1	L36882	Hordeum vulgare
AA033645.1	AF02917	Catharanthus roseus	CA029082.1	X05576	Hordeum vulgare
CA041474.1	A0238402	Glycine max	CA057352.1	X81709	Tulipa gesneriana
AA094586.1	AF022457	Petunia x hybrida	CA057350.1	X81708	Tulipa gesneriana
AA056282.1	AF155332	Sinapis alba	CA057354.1	X81710	Tulipa gesneriana
AD03415.1	AF069494	Pisum sativum	CA065314.1	X96447	Triticum aestivum
CA089260.1	Z49263	Petunia x hybrida	SEQ ID NO. 1872		
AA023274.1	AF081575	Solanum melongena	AA039439.1	AF132001	Petunia x hybrida
CA050155.1	X70824	Triglochin maritimum	AA032658.1	AF253970	Picea abies
AA066544.1	AF140610	Glycine max	AA032659.1	AF253971	Picea abies
AA094590.1	AF022461				
AA022461	AB022732				

AAD22495.3	AF134116	<i>Hyacinthus orientalis</i>	SEQ ID NO. 1873	SEQ ID NO. 1875	<i>Petunia x hybrida</i>
AAAF6898.1	AF274033	<i>Atroplex hortensis</i>	AAAF6898.1	BAA21921.1	<i>Petunia x hybrida</i>
AAK21249.1	AF335236	<i>Petunia x hybrida</i>	AAK21249.1	SEQ ID NO. 1876	<i>Nicotiana tabacum</i>
AAAF6381.1	AF068723	<i>Nicotiana tabacum</i>	AAAF6381.1	CBA41987.1	<i>Nicotiana tabacum</i>
AAK21254.1	AF335241	<i>Petunia x hybrida</i>	AAK21254.1	CBA75603.1	<i>Pisum sativum</i>
AAAF22138.1	AF129875	<i>Capsicum annuum</i>	AAAF22138.1	AAAF1220.1	<i>Tagetes erecta</i>
AAK25922.1	U78947	<i>Malus x domestica</i>	AAK25922.1	CBA89286.1	<i>Nicotiana tabacum</i>
AAK04519.1	AJ001681	<i>Malus x domestica</i>	AAK04519.1	AAAF23770.1	<i>Nicotiana tabacum</i>
AAAF64741.1	X35467	<i>Antirrhinum majus</i>	AAAF64741.1	CBA54558.1	<i>Physcomitrella patens</i>
AAAF51422.1	U78949	<i>Malus x domestica</i>	AAAF51422.1	AAAF23771.1	<i>Gentiana lutea</i>
AAK04323.1	AJ000761	<i>Malus x domestica</i>	AAK04323.1	CBA76387.1	<i>Physcomitrella patens</i>
AAAF78284.1	AF025977	<i>Eucalyptus grandis</i>	AAAF78284.1	CBA76386.1	<i>Physcomitrella patens</i>
AAK04920.1	AJ001682	<i>Malus x domestica</i>	AAK04920.1	CBA04845.2	<i>Physcomitrella patens</i>
AAK21247.1	AF335234	<i>Petunia x hybrida</i>	AAK21247.1	CBA89288.1	<i>Nicotiana tabacum</i>
AAK21248.1	AF335235	<i>Petunia x hybrida</i>	AAK21248.1	AAAF6782.1	<i>Lilium longiflorum</i>
AAAD51423.1	U78950	<i>Malus x domestica</i>	AAAD51423.1	AAAF7239.1	<i>Platid Neotopteris nidus</i>
AAK04322.1	AJ000760	<i>Malus x domestica</i>	AAK04322.1	AAAF7239.1	<i>Chlamydomonas reinhardtii</i>
AAAF7579.1	AF072534	<i>Capsicum annuum</i>	AAAF7579.1	AAAF19407.1	<i>Chlamydomonas reinhardtii</i>
AAAF48859.1	X69107	<i>Aranda deborah</i>	AAAF48859.1	SEQ ID NO. 1877	<i>Pinus taeda</i>
AAK49817.1	U78892	<i>Oryza sativa</i>	AAK49817.1	AAG01147.1	<i>Beta vulgaris</i>
CAC49816.1	U78891	<i>Oryza sativa</i>	CAC49816.1	CBA05161.1	<i>Ricinus communis</i>
CAB97355.1	AJ249147	<i>Hordeum vulgare</i>	CAB97355.1	AAAF1419.1	<i>Ricinus communis</i>
AAD39034.1	AF068722	<i>Nicotiana sylvestris</i>	AAD39034.1	AAAF1420.1	<i>Nicotiana glauca</i>
CBA64742.1	X35468	<i>Antirrhinum majus</i>	CBA64742.1	CBA95999.1	<i>Nicotiana glauca</i>
CBA64743.1	X35469	<i>Antirrhinum majus</i>	CBA64743.1	AAD17490.1	<i>Barbieris stolonifera</i>
CBA69916.1	X08626	<i>Sinapis alba</i>	CBA69916.1	AAD17490.1	<i>Prunus armeniaca</i>
CAB95648.1	AJ252070	<i>Betula pendula</i>	CAB95648.1	AAD17490.1	<i>Prunus armeniaca</i>
AAAF13262.1	AF198176	<i>Dendrobium grex Madame Thong-In</i>	AAAF13262.1	CBA61939.1	<i>Zea mays</i>
AAAF1258.1	AJ223318	<i>Pisum sativum</i>	AAAF1258.1	AAAF22948.1	<i>Hordeum vulgare</i>
AAAF50187.1	U79734	<i>Sorghum bicolor</i>	AAAF50187.1	AAAF22949.1	<i>Hordeum vulgare</i>
AAAF66187.1	L34271	<i>Oryza sativa</i>	AAAF66187.1	AAAF22949.1	<i>Hordeum vulgare</i>
AAAG35652.1	AF204063	<i>Eucalyptus grandis</i>	AAAG35652.1	CBA54526.1	<i>Chlamydomonas reinhardtii</i>
AAAF78282.1	AF025975	<i>Oryza sativa</i>	AAAF78282.1	CBA70919.1	<i>Brassica napus</i>
AAD38370.1	AF141966	<i>Oryza sativa</i>	AAD38370.1	AAAF59118.1	<i>Solanum melongena</i>
AAAF1882.1	AJ0003324	<i>Oryza sativa</i>	AAAF1882.1	AAAF59118.1	<i>Solanum melongena</i>
AAAF04325.1	AJ000763	<i>Malus x domestica</i>	AAAF04325.1	AAAF59118.1	<i>Solanum melongena</i>
AAAF20816.1	AF107588	<i>Dendrobium grex Madame Thong-In</i>	AAAF20816.1	AAAF59118.1	<i>Solanum melongena</i>
AAAF64250.1	U78782	<i>Oryza sativa</i>	AAAF64250.1	AAAF59118.1	<i>Solanum melongena</i>
AAAF13260.1	AF198174	<i>Dendrobium grex Madame Thong-In</i>	AAAF13260.1	AAAF59118.1	<i>Solanum melongena</i>







AAE67050.1	AF190301	Secale cereale	AAK28804.1	AF310959	Linum usitatissimum
AAE67051.1	AF190302	Secale cereale	AAG09951.1	AF175388	Glycine max
CAA78388.1	Z13998	Petunia x hybrida	CAC35337.1	AJ301062	Linum usitatissimum
BAE72218.1	Y11411	Oryza sativa	CAC35330.1	AJ301055	Linum usitatissimum
BAE81731.1	Y1029160	Glycine max	CAAO9797.1	AJ009719	Solanum tuberosum
BAE81730.1	AD029159	Glycine max	CAC35326.1	AJ301051	Linum usitatissimum
CAE72217.1	Y11414	Oryza sativa	CAC35325.1	AJ301050	Linum usitatissimum
BAE81736.1	AD029165	Glycine max	CAC35336.1	AJ301061	Linum usitatissimum
BAE41101.1	U72762	Nicotiana tabacum	CAC35328.1	AJ301053	Linum usitatissimum
BAE82823.1	AD028651	Nicotiana tabacum	CAC35332.1	AJ301057	Linum usitatissimum
BAE23340.1	D8620	Oryza sativa	CAC35339.1	AJ301064	Linum usitatissimum
BAE219162	AD029162	Glycine max	AAO25966.1	AF093639	Linum usitatissimum
BAE82822.1	AD028650	Nicotiana tabacum	CAC35338.1	AJ301063	Linum usitatissimum
CAE43399.1	AJ006292	Antirrhinum majus	CAC35336.1	AF211528	Nicotiana tabacum
BAE81732.1	AD029161	Glycine max	CAC35331.1	AJ301050	Linum usitatissimum
CAE28525.1	AF198498	Nicotiana tabacum	CAC35333.1	AJ301058	Linum usitatissimum
CAA50226.1	X70881	Hordeum vulgare	CAC35334.1	AJ301059	Linum usitatissimum
CAA50223.1	X70878	Hordeum vulgare	CAC35329.1	AJ301054	Linum usitatissimum
CAA78387.1	Z13997	Petunia x hybrida	AAO25969.1	AF093642	Linum usitatissimum
X98355		Oryza sativa	AAO25974.1	AF093647	Linum usitatissimum
AAK19616.1	AF336283	Gossypium hirsutum	CAC35327.1	AJ301052	Linum usitatissimum
AAO28526.1	AF198499	Nicotiana tabacum	AAO25975.1	AF093648	Linum usitatissimum
CAE78386.1	Z13996	Petunia x hybrida	AAO1052.1	AF175395	Glycine max
CAE6952.1	X98308	Lycopersicon esculentum	CAC35331.1	AJ301056	Linum usitatissimum
BAE23341.1	D8621	Oryza sativa	CAC35323.1	AJ301052	Linum usitatissimum
CAE50221.1	X70876	Hordeum vulgare	AAO25968.1	AF093641	Linum usitatissimum
AAK19611.1	AF336278	Gossypium hirsutum	AAO1022.1	U27081	Linum usitatissimum
CAE61021.1	X87690	Hordeum vulgare	AAO25976.1	AF093649	Linum usitatissimum
AAO22863.1	AAO08692	Hordeum vulgare	AAO1021.1	U27081	Linum usitatissimum
			AAO25970.1	AF093643	Linum usitatissimum
			AAO25967.1	AF093640	Linum usitatissimum
			AAO47618.1	U73916	Linum usitatissimum
			AAO25971.1	AF093644	Linum usitatissimum
			AAO25965.1	AF093638	Linum usitatissimum
			AAO25973.1	AF093646	Linum usitatissimum
			AAO25972.1	AF093645	Linum usitatissimum
			AAO1053.1	AF175394	Glycine max
			AAO09954.1	AF175399	Glycine max
			AAO09953.1	AF175398	Glycine max
SEQ ID NO. 1915					
AAO50763.1	U15605	Nicotiana glutinosa			
AAK28809.1	AF310962	Linum usitatissimum			
AAK28810.1	AF310964	Linum usitatissimum			
AAK28812.1	AF310968	Linum usitatissimum			
AAK28808.1	AF310961	Linum usitatissimum			
AAK28805.1	AF310960	Linum usitatissimum			
CAO08798.1	AJ009720	Solanum tuberosum			
AAK28811.1	AF310966	Linum usitatissimum			
AAK28806.1	AF310960	Linum usitatissimum			
AAK28803.1	AF310958	Linum usitatissimum			

SEQ ID NO. 1918

AAE76897.1	AE274032	Atiplex hortensis	AAE25969.1	AF093642	Linum usitatissimum
AAE25162.1	AF014810	Lycopersicon esculentum	CAC35337.1	AJ301062	Linum usitatissimum
AAE25161.1	AF014809	Lycopersicon esculentum	CAC35331.1	AJ301056	Linum usitatissimum
AAE25160.1	AF014808	Lycopersicon esculentum	CAC35334.1	AJ301059	Linum usitatissimum
CAE70778.1	Y09591	Vicia faba	CAC35323.1	AJ301050	Linum usitatissimum
RAE96630.1	U64823	Nicotiana sylvestris	CAC35327.1	AJ301052	Linum usitatissimum
RAE96844.1	U31932	Nicotiana sylvestris	AAE25968.1	AF093641	Linum usitatissimum
RAE16015.1	AF080544	Nepenthes alata	AAE91022.1	U27081	Linum usitatissimum
CAE70969.1	Y09826	Solanum tuberosum	CAC35338.1	AJ301063	Linum usitatissimum
CAE70968.1	Y09825	Solanum tuberosum	CAC35332.1	AJ301057	Linum usitatissimum
RAE16014.1	AF080543	Nepenthes alata	CAC35326.1	AJ301050	Linum usitatissimum
RAE16013.1	AF080542	Nepenthes alata	CAC35336.1	AJ301061	Linum usitatissimum
AAE15945.1	AF061435	Vicia faba	CAC35333.1	AJ301058	Linum usitatissimum
AAE15946.1	AF061436	Vicia faba	CAC35321.1	AJ301050	Linum usitatissimum
AAE15944.1	AF061434	Vicia faba	AAE09954.1	AF175399	Glycine max
SEQ ID NO. 1919			CAC35330.1	AJ301055	Linum usitatissimum
CAE08798.1	AJ0009720	Solanum tuberosum	CAC35328.1	AJ301053	Linum usitatissimum
AAE50763.1	U15605	Nicotiana glutinosa	CAC35339.1	AJ301064	Linum usitatissimum
AAE43546.1	AE211528	Nicotiana tabacum	CAC35326.1	AJ301051	Linum usitatissimum
CAE08797.1	AJ0009719	Solanum tuberosum	AAE28810.1	AF310964	Linum usitatissimum
AAE47618.1	U73916	Linum usitatissimum	AAE28812.1	AF310968	Linum usitatissimum
RAE28803.1	AF310958	Linum usitatissimum	AAE28811.1	AF310966	Linum usitatissimum
AAE28804.1	AF310959	Linum usitatissimum	SEQ ID NO. 1920		
AAE28808.1	AF310951	Linum usitatissimum	CAC39280.1	X55751	Solanum tuberosum
AAE28809.1	AF310962	Linum usitatissimum	CAC31886.1	AF059484	Gossypium hirsutum
AAE28805.1	AF310960	Linum usitatissimum	CAC45149.1	X63603	Nicotiana tabacum
AAE28801.1	AF175395	Glycine max	CAC39278.1	X55749	Solanum tuberosum
AAE28800.1	AF175398	Glycine max	CAC49651.1	U68461	Striga asiatica
AAE28806.1	AF175398	Glycine max	CAC49652.1	U68462	Striga asiatica
AAE28807.1	AF175394	Glycine max	AAE04386.1	AF234328	Avena nuda
AAE28808.1	AJ301054	Linum usitatissimum	AAE03892.1	AF172094	Picea rubens
AAE28809.1	AF093645	Linum usitatissimum	AAE31643.1	AF143208	Vigna radiata
AAE28805.1	AF093640	Linum usitatissimum	CAC38874.1	X15865	Oryza sativa
AAE28806.1	AF093639	Linum usitatissimum	AAE10041.1	AF288226	Setaria italica
AAE28807.1	AF093638	Linum usitatissimum	AAE99214.1	AB032361	Mimosa pudica
AAE28808.1	AF093648	Linum usitatissimum	CAC39281.1	X55752	Solanum tuberosum
AAE28809.1	AF093647	Linum usitatissimum	AAE17264.1	AF246714	Phalaenopsis sp. 'True lady'
AAE28810.1	AF093646	Linum usitatissimum	AAE1039.1	AF125338	Malva pusilla
AAE28811.1	AF093644	Linum usitatissimum	AAE17265.1	AF246715	Phalaenopsis sp. 'True lady'











AAA81348.1	U38965	Vicia faba	CNA46234.1	X55118	Nicotiana plumbaginifolia
AAK32119.1	AF308817	Hordeum vulgare	AAA33486.1	M74566	Zea mays
AAK32118.1	AF308816	Hordeum vulgare	AAV79045.1	U34742	Spinacia oleracea
AAA20600.1	U09884	Zea mays	CAE57551.1	X82030	Phaseolus vulgaris
SEQ ID NO. 1959			CAA11893.1	AJ224324	Hordeum vulgare
CBM43505.1	AJ239051	Cicer arietinum	CBM1023.1	X57955	Spinacia oleracea
BAH74465.1	AE022732	Glycyrrhiza echinata	CAAC33039.1	L15080	Mesembryanthemum crystalli
BAH35634.1	AE023016	Lotus japonicus	CAAC01238.1	AJ292768	Nicotiana plumbaginifolia
BAH24222.1	AE001379	Glycyrrhiza echinata	CAAC99580.1	U30212	Nicotiana tabacum
CAA04117.1	AJ0000478	Helianthus tuberosus	CAAC01237.1	AJ292767	Nicotiana plumbaginifolia
CBM41490.1	AJ238439	Cicer arietinum	CAAC1127.1	Z68042	Arenaria phyllitidis
CAA04116.1	AJ0000477	Helianthus tuberosus	AAH66823.1	AF190655	Nicotiana tabacum
CAA10067.1	AJ012581	Cicer arietinum	AAH38974.1	U81318	Triticum aestivum
RAH56282.1	AF155332	Petunia x hybrida	CAA05729.1	AJ002894	Oryza sativa
AAH09208.1	AF175278	Pisum sativum	BAA05170.1	D26182	Nicotiana sylvestris
BAH12159.1	D83968	Glycine max	AAH66825.1	AF190657	Nicotiana tabacum
CAA65580.1	X96784	Nicotiana tabacum	AAK30205.1	AF349964	Daucus carota
AAH44132.1	U29333	Pisum sativum	AAH63202.1	AF240679	Cucumis sativus
AAH49188.2	U29333	Pisum sativum	AAH71417.1	U81287	Pisum sativum
CAA64635.1	X95342	Nicotiana tabacum	BAA22083.1	D28862	Nicotiana sylvestris
CAAC39454.1	AF014802	Eschscholzia californica	CAA75429.1	AJ272011	Nicotiana plumbaginifolia
AAH94590.1	AF022461	Glycine max	BAA12064.1	D93696	Nicotiana sylvestris
AAH32913.1	M32885	Persea americana	AAA75104.1	U32310	Triticum aestivum
BAH94072.1	AE028152	Torenia hybrida	BAH03742.1	D16205	Nicotiana sylvestris
BAH13076.1	D86351	Glycine max	AAH88558.1	Z48624	Hordeum vulgare
BAH94071.1	AE028151	Antirrhinum majus	AAH23220.1	AF310215	Sorghum bicolor
CAH30274.1	AF081575	Petunia x hybrida	SEQ ID NO. 1961		
CAH50155.1	X70824	Solanum malongena	AAH27547.1	AF269128	Brassica nigra
CAH70575.1	Y09423	Nepeta racemosa	AAH27695.1	AF016010	Brassica napus
BAH22994.1	AE006790	Petunia x hybrida	AAH27694.1	AF016009	Brassica napus
AAH94587.1	AF022458	Glycine max	AAH27596.1	AF016011	Brassica napus
SEQ ID NO. 1960			AAH27546.1	AF269126	Brassica nigra
BAA01887.1	D11111	Nicotiana sylvestris	AAH24863.1	AF300700	Ipomoea nil
BAA01886.1	D11110	Nicotiana tabacum	AAH299310.1	AF052585	Malus x domestica
CAA11894.1	AJ224325	Hordeum vulgare	AAH359309.1	AF052584	Malus x domestica
BAA22411.1	D38485	Triticum aestivum	AAH35496.1	AF052690	Raphanus sativus
CAA06469.1	AJ005286	Hordeum vulgare	AAH22518.1	AF001136	Pinus radiata
CAA66479.1	X97905	Vicia faba	AAH14948.1	AF230669	Brassica napus
CAA46233.1	X65117	Nicotiana plumbaginifolia	AAH14950.1	AF230671	Brassica oleracea
			AAH14947.1	AF230668	Brassica napus

AAK14949.1	AF230670	Brassica rapa	AACT8393.1	U83670	Oryza sativa
SEQ ID NO. 1962			CRA31785.1	X13431	Triticum aestivum
AAA33975.1	M11395	Glycine max	CRA63370.1	X92983	Pseudotsuga menziesii
AAA14547.1	X58711	Medicago sativa	AACT8394.1	U83671	Oryza sativa
ABA03893.1	M11318	Glycine max	CMA63571.1	X92984	Pseudotsuga menziesii
AAA33672.1	M13899	Pisum sativum	SEQ ID NO. 1965		
CMB55578.1	X01104	Glycine max	AAAD3415.1	AF069494	Sinapis alba
BA330662.1	A0273596	Helianthus annuus	AAAB85440.1	U32624	Sorghum bicolor
AAA33974.1	M11317	Glycine max	AAEF7289.1	AF140613	Manihot esculenta
AAA30454.1	AF123257	Lycopersicon esculentum	AAEF7290.1	AF140614	Manihot esculenta
AAA30452.1	AF123255	Lycopersicon esculentum	AAEF6543.1	AF140609	Triglochin maritimum
CRA39603.1	X56138	Lycopersicon esculentum	AAEF6544.1	AF140610	Triglochin maritimum
AAA30453.1	AF123256	Lycopersicon esculentum	BA32894.1	AB006790	Petunia x hybrida
CRA37847.1	X53851	Daucus carota	AAAD56282.1	AF155332	Petunia x hybrida
AAA33671.1	M33900	Pisum sativum	CMA50155.1	X70824	Solanum melongena
AAAF34133.1	AF161179	Malus x domestica	AAC32274.1	AF081575	Petunia x hybrida
CRA41546.1	X58710	Medicago sativa	AAA32913.1	M32885	Persea americana
ABA63310.1	U46544	Helianthus annuus	CRA64635.1	X95342	Nicotiana tabacum
ABA63311.1	U46545	Helianthus annuus	CRA65580.1	X96784	Nicotiana tabacum
CMB08441.1	Z95153	Helianthus annuus	AAAB94587.1	AF022458	Glycine max
CRA42222.1	X59701	Helianthus annuus	AAAB7562.1	U72654	Pisum sativum
AAA39360.1	U63631	Fragaria x ananassa	AAG09208.1	AF175278	Eustoma grandiflorum
AAA33910.1	M80939	Oryza sativa	AAAD37433.1	AF150881	Lycopersicon esculentum x
CRA37848.1	X53852	Daucus carota	CMA04117.1	AJ000478	Helianthus tuberosus
AAA33909.1	M80938	Oryza sativa	CMA04116.1	AJ000477	Helianthus tuberosus
CMA43210.1	X50820	Oryza sativa	CBA43505.1	AJ239051	Cicer arietinum
CRA37864.1	X53870	Nicotiana glauca	AAAC49188.2	U29333	Pisum sativum
AAAD9336.1	AF166277	Chenopodium rubrum	RAC41963.1	AF214009	Brassica napus
AAA61632.1	U08601	Papaver somniferum	AAAD3830.1	AF135485	Glycine max
AAAB72109.1	AF022217	Brassica rapa	AAAG41962.1	AF214008	Brassica napus
CRA63902.1	X94192	Fennisetum glaucum	AAAG4132.1	AF218296	Pisum sativum
AAA39856.1	U81385	Oryza sativa	AAAG4568.1	AF022459	Glycine max
CRA46641.1	X56725	Zea mays	AAAG4961.1	AF214007	Brassica napus
CMA08908.1	AJ000980	Castanea sativa	AAAB94590.1	AF022461	Glycine max
CRA63903.1	X94193	Fennisetum glaucum	BAAB4071.1	AB028151	Antirrhinum majus
CBA36910.1	AJ000691	Quercus suber	CMA50442.1	X71130	Petunia x hybrida
CRA63901.1	X94191	Fennisetum glaucum	SEQ ID NO. 1966		
AACT8392.1	U83669	Oryza sativa	AAAG38521.1	AF283536	Citrus x paradisi
BAA02160.1	D12635	Oryza sativa			



AA951337.1	AF249318	Glycine max	BAAL3608.1	D88399	Oryza sativa
AA951336.1	AF249317	Glycine max	AC084763	AC084763	Oryza sativa
AF66615.1	AF142596	Nicotiana tabacum	BAAL19573.1	BAAL19573.1	Oryza sativa
CA97692.1	Z73295	Catharanthus roseus	AA002109	AA002109	Triticum aestivum
AAK11567.1	AF138491	Lycopersicon hirsutum	AA008348.1	U29095	Nicotiana tabacum
AA07421.1	U59316	Lycopersicon esculentum	AA002040.1	U73939	Triticum aestivum
AA076733.1	AF220603	Lycopersicon esculentum	AA061325.1	M94726	Mesembryanthemum crystalli
CA027894.1	AF023164	Zea mays	CA081443.1	Z26846	Glycine max
AAK11566.1	AF318490	Lycopersicon hirsutum	BA068962.1	I38855	Vicia faba
CA027895.1	AF023165	Zea mays	AA027340.1	AF186020	Chlamydomonas eugametos
AF676306.1	AF220602	Lycopersicon pimpinellifolium	CA089202.1	Z49233	Craterostigma plantagineum
BA047424.1	U59317	Lycopersicon pimpinellifolium	CA005373	CA005373	
AA076307.1	AF220602	Lycopersicon pimpinellifolium	SEQ ID NO. 1978		
AA048914.1	U02271	Lycopersicon pimpinellifolium	AAFL13739.1	AF108435	Papaver somniferum
AA047423.1	U59315	Lycopersicon pimpinellifolium	AAFL13736.1	AF108432	Papaver somniferum
AA025966.1	AF302082	Nicotiana tabacum	AAFL13738.1	AF108434	Papaver somniferum
AA034428.1	AF172282	Oryza sativa	AAFL13737.1	AF108433	Glycine max
AA073134.1	Y12531	Brassica oleracea	CA039261.1	X55730	Medicago sativa
AA033377.1	AF290411	Oryza meyeriana	CA057783.1	X82367	Medicago sativa
BA092954.1	AF001551	Oryza sativa	AA041556.1	U13925	Medicago sativa subsp. sativa
SEQ ID NO. 1978			CA057784.1	X82368	Medicago sativa
BA034675.1	AB011670	Triticum aestivum	CA057782.1	X82366	Medicago sativa
BA083688.1	AB011967	Oryza sativa	AA041555.1	U13924	Medicago sativa subsp. sativa
AF22219.1	AF141378	Zea mays	BA012084.1	D83718	Glycyrrhiza echinata
BA083689.1	AB011968	Oryza sativa	BA013114.1	D86519	Glycyrrhiza glabra
CA073068.1	Y12465	Sorghum bicolor	BA013113.1	D86558	Glycyrrhiza glabra
CA073067.1	Y12464	Sorghum bicolor	AA022264.1	AF133841	Xerophyta viscosa
BA062693.1	AF004947	Oryza sativa	AA021751.1	Y12042	Bromus inermis
BA06628.1	AF002482	Oryza sativa	CA040747.1	X57526	Hordeum vulgare
CA071142.1	Y10036	Cucumis sativus	CA088322.1	Z48360	Hordeum vulgare
AA023582.1	AF128443	Glycine max	CA049138.1	U21747	Avena fatua
BA07898.1	X82548	Hordeum vulgare	AA061939.2	AF055910	Orbanchaceae
BA005619.1	U26602	Nicotiana tabacum	AA089761.1	U03887	Agilum graveolens
CA059329.1	AF062479	Oryza sativa	CA088591.1	Z48672	Sesbania rostrata
CA065244.1	X95997	Solanum tuberosum	AAFL13741.1	AF108437	Papaver somniferum
BA005457.1	U55768	Oryza sativa	AA031150.1	AF308853	Lotus corniculatus
CA046554.1	X56504	Hordeum vulgare	BA076417.1	AB024989	Cicer arcticum
CA07813.1	AF007990	Hordeum vulgare	AA031151.1	AF308854	Lotus corniculatus
CA046556.1	X65606	Hordeum vulgare	AAFL13740.1	AF108436	Papaver somniferum
AA000239.1	U73938	Nicotiana tabacum	SEQ ID NO. 1980		



CAB94692.1	AJ242742	Inomoea batatas	CMA71492.1	Y10466	Spinacia oleracea
RA037430.1	AF149280	Phaseolus vulgaris	RAE73027.1	AF244524	Spinacia oleracea
CAB66037.1	X97351	Populus balsamifera subsp.	RAE7389.1	AB024439	Scutellaria baicalensis
trichocarpa			BA077388.1	AB024438	Scutellaria baicalensis
BA064335.1	D30653	Populus kitakamiensis	BA072554.1	L37790	Sylvestris humilis
RA034108.1	002973	Nicotiana tabacum	RAE63026.1	AF244923	Spinacia oleracea
RA01992.1	D11396	Nicotiana tabacum			
CAB66034.1	X97348	Populus balsamifera subsp.			
trichocarpa					
AA047602.1	L07554	Linum usitatissimum	SEQ ID NO. 1981		
BA011853.1	D83225	Populus nigra	AA01204.1	AF030260	Vicia sativa
AA050597.1	X71593	Lycopersicon esculentum	AA01740.1	AF123609	Triticum aestivum
CAB67121.1	Y19023	Lycopersicon esculentum	AA033645.1	AF092917	Vicia sativa
BA011852.1	D83224	Lycopersicon esculentum	AA031592.1	AY029178	Brassica rapa subsp. pexin
CAB66035.1	X97349	Populus nigra	CAB41474.1	AJ238402	Catharanthus roseus
trichocarpa			AA094588.1	AF022459	Glycine max
RA037427.1	AF149277	Phaseolus vulgaris	AA094586.1	AF022457	Glycine max
BA011877.1	D11102	Populus kitakamiensis	AA032913.1	N32885	Persea americana
CAB66036.1	X97350	Populus balsamifera subsp.	CAA89260.1	Z49263	Pisum sativum
trichocarpa			BA012159.1	D83968	Glycine max
AA062225.1	X90692	Medicago sativa	BA040323.1	AB037244	Asparagus officinalis
RA097734.1	AF014502	Glycine max	CAA70576.1	Y09424	Nepeta racemosa
CAB62226.1	X90693	Medicago sativa	BA040324.1	AB037245	Asparagus officinalis
CAB62227.1	X90694	Medicago sativa	AA037433.1	AF150881	Lycopersicon esculentum x
BA06634.1	D30652	Populus kitakamiensis	CAA6503.1	AJ238612	Catharanthus roseus
RA047241.1	D38051	Populus kitakamiensis	CAB70575.1	Y09423	Nepeta racemosa
RA041810.1	L36156	Medicago sativa	BA094589.1	AF022460	Glycine max
RA041811.1	L36157	Medicago sativa	RA056282.1	AF155332	Petunia x hybrida
BA014144.1	D90116	Armoracia rusticana	AA014963.1	AF214007	Brassica napus
AA09519.1	AF007211	Glycine max	AA014961.1	AF214007	Brassica napus
RA02840.1	D13683	Populus kitakamiensis	AA014962.1	AF214008	Brassica napus
BA014143.1	D90115	Armoracia rusticana	CAA050648.1	X71657	Scolanum melongena
BA033129.1	N91372	Cucumis sativus	CAA04987.1	U09610	Berberis stolonifera
BA008499.1	D49551	Oryza sativa	CAA57423.1	X81829	Zea mays
RA034101.1	L02124	Nicotiana tabacum	BA072208.1	Y11404	Zea mays
RA076680.1	X71792	Cucurbita pepo	BA013076.1	D86351	Glycine max
CAB07096.1	X57564	Armoracia rusticana	CAB41449.1	AJ238439	Cicer arietinum
AA033121.1	N32742	Cucumis sativus	BA040322.1	AB036772	Triticum aestivum
BA082306.1	AF155124	Nicotiana tabacum	CA010067.1	AF012581	Cicer arietinum
RA043561.1	X97348	Gossypium hirsutum	BA084516.1	AB032833	Cicer arietinum
BA06183.1	N37636	Arachis hypogaea	CAA04117.1	AJ000478	Helianthus tuberosus
			CAA04116.1	AJ000477	Helianthus tuberosus

SEQ ID NO. 1983	AAU55394.1	AF176641	<i>Lycopersicon esculentum</i>
BAA33200.1	CAAC0056.1	AJ292743	<i>Petroselinum crispum</i>
BAA33206.1	CAAY7402.1	Y13676	<i>Antirrhinum majus</i>
AAAC35496.1	BAAY7402.1	Y13675	<i>Antirrhinum majus</i>
AAAD22518.1	BAAD2204.1	D63951	<i>Nicotiana tabacum</i>
AAAC33203.1	AAK14790.1	AY027510	<i>Catharanthus roseus</i>
BA333204.1	BAAL1431.1	D78609	<i>Oryza sativa</i>
BA333204.1	BAAC36492.1	AB021736	<i>Oryza sativa</i>
BA333202.1	CAAC41453.1	X58577	<i>Petroselinum crispum</i>
BA333201.1	CAAC37418.1	I34551	<i>Oryza sativa</i>
BA333205.1	BAAB36514.1	U57389	<i>Phaseolus vulgaris</i>
	CAAT0216.1	Y09013	<i>Triticum aestivum</i>
	CAAE6647.1	X79003	<i>Vicia faba</i>
	CAAT1795.1	Y10834	<i>Hordeum vulgare</i>
	CAAT1768.1	Y10809	<i>Petroselinum crispum</i>
	AAIC9398.1	U46217	<i>Petroselinum crispum</i>
SEQ ID NO. 1989	SEQ ID NO. 1989		<i>Fisum sativum</i>
AAAF62896.1	AAAF62896.1	AF223643	
SEQ ID NO. 1993	SEQ ID NO. 1993		
CAAT78386.1	CAAT78386.1	Z13996	<i>Petunia x hybrida</i>
AAK19616.1	AAK19616.1	AF336283	<i>Gossypium hirsutum</i>
CAAT72218.1	CAAT72218.1	Y11415	<i>Oryza sativa</i>
CAAB43399.1	CAAB43399.1	AJ006292	<i>Antirrhinum majus</i>
BAAC23337.1	BAAC23337.1	D88617	<i>Oryza sativa</i>
BAAB88224.1	BAAB88224.1	AB028652	<i>Nicotiana tabacum</i>
CAAE4614.1	CAAE4614.1	X95296	<i>Lycopersicon esculentum</i>
CAAE50221.1	CAAE50221.1	X70876	<i>Hordeum vulgare</i>
CAAE19619.1	CAAE19619.1	AF336286	<i>Gossypium hirsutum</i>
CAAE50224.1	CAAE50224.1	X70879	<i>Hordeum vulgare</i>
AAK19611.1	AAK19611.1	AF336278	<i>Gossypium hirsutum</i>
CAAE7600.1	CAAE7600.1	X95210	<i>Lycopersicon esculentum</i>
BAAB88221.1	BAAB88221.1	AB028649	<i>Nicotiana tabacum</i>
BAAC23338.1	BAAC23338.1	D88618	<i>Oryza sativa</i>
BAAB1732.1	BAAB1732.1	AB029161	<i>Glycine max</i>
BAAB1730.1	BAAB1730.1	AB029160	<i>Glycine max</i>
BAAB1730.1	BAAB1730.1	AB029159	<i>Glycine max</i>
CAAT72186.1	CAAT72186.1	Y11351	<i>Oryza sativa</i>
BAAB1733.2	BAAB1733.2	AB029162	<i>Glycine max</i>
SEQ ID NO. 1986	SEQ ID NO. 1986		
CAEB9831.1	CAEB9831.1	AJ242853	<i>Solanum tuberosum</i>
BAAB70119.1	BAAB70119.1	U82230	<i>Zea mays</i>
CAA04440.1	CAA04440.1	AJ000991	<i>Hordeum vulgare</i>
CAAC09976.1	CAAC09976.1	AJ012284	<i>Triticum aestivum</i>
CAAB6875.1	CAAB6875.1	X66076	<i>Zea mays</i>
BAAB08094.1	BAAB08094.1	D45066	<i>Cucurbita maxima</i>
BAAB8190.1	BAAB8190.1	AF000836	<i>Oryza sativa</i>
SEQ ID NO. 1987	SEQ ID NO. 1987		
AAAC34858.1	AAAC34858.1	AF082033	<i>Hemerocallis hybrid cultivar</i>
AAAC49186.1	AAAC49186.1	U37088	<i>Simmondsia chinensis</i>
AAAG28600.1	AAAG28600.1	AF247134	<i>Limnathes douglasii</i>
AAAB72178.1	AAAB72178.1	AF009563	<i>Brassica napus</i>
AAAG6054.1	AAAG6054.1	U50771	<i>Brassica napus</i>
CAAT1898.1	CAAT1898.1	Y11007	<i>Brassica juncea</i>
CAAT17746.1	CAAT17746.1	AJ291728	<i>Zea mays</i>
AAK11266.1	AAK11266.1	AF333040	<i>Dunaliella salina</i>
AAAC25110.1	AAAC25110.1	AF054498	<i>Brassica napus</i>
AAAC25109.1	AAAC25109.1	AF054497	<i>Brassica napus</i>
AAAC25112.1	AAAC25112.1	AF054500	<i>Brassica oleracea</i>
AAAC25111.1	AAAC25111.1	AF054499	<i>Brassica rapa</i>
SEQ ID NO. 1988	SEQ ID NO. 1988		
AAK25822.1	AAK25822.1	AF350505	<i>Phaseolus vulgaris</i>
AAK01953.1	AAK01953.1	AY026054	<i>Phaseolus acutifolius</i>
CAAC00658.1	CAAC00658.1	AJ292745	<i>Petroselinum crispum</i>
CAAT1687.1	CAAT1687.1	Y10685	<i>Glycine max</i>
CAAC00657.1	CAAC00657.1	AJ292744	<i>Petroselinum crispum</i>





BAA21926.1	AB006604	Petunia x hybrida	CMA63543.1	X92967	Nicotiana tabacum
BAA21925.1	AB006603	Petunia x hybrida	CMA63542.1	X92966	Nicotiana tabacum
BAA21924.1	AB006602	Petunia x hybrida	CMA44632.1	X62820	Glycine max
BAA21920.1	AB006598	Petunia x hybrida	CMA44188.1	X62303	Glycine max
BAA19111.1	AB000452	Petunia x hybrida	CMA46641.1	AJ243451	Lycopersicon esculentum
BAB06071.1	AB035133	Petunia x hybrida	AAC50013.1	U50061	Zea mays
BAA21927.1	AB006605	Petunia x hybrida	CMA50123.1	226331	Glycine max
BAA96070.1	AB035132	Petunia x hybrida	CMA46642.1	AJ243452	Lycopersicon esculentum
BAA21915.1	AB006597	Petunia x hybrida	CBA71243.1	Y10161	Chenopodium rubrum
BAA01713.1	AF332876	Oryza sativa	AAB20237.1	U10077	Zea mays
AA006243.1	AFV53077	Nicotiana tabacum	CMA95990.1	AF002481	Sesbania rostrata
BA005079.1	D26086	Petunia x hybrida	BA95628.1	AP024986	Oryza sativa
BA005078.1	D26085	Petunia x hybrida	BA61888.1	U24193	Lupinus luteus
BA005076.1	D26083	Petunia x hybrida	AAD31789.1	AF126106	Lupinus luteus
BAA21928.1	AB006606	Petunia x hybrida	AAC61889.1	U24194	Lupinus luteus
BAA19114.1	AB000455	Petunia x hybrida	AAD31790.1	AF126107	Lupinus luteus
AAD26942.1	AF119050	Datisca glomerata	AAC24245.1	U44857	Lupinus luteus
BAA19112.1	AB000453	Petunia x hybrida	AAD31791.1	AF126108	Lupinus luteus
BA053260.1	U76554	Brassica rapa	BAA09467.1	D50871	Glycine max
BA053261.1	U76555	Brassica rapa	CMA50465.1	D50869	Glycine max
BAA19926.1	AB000456	Petunia x hybrida	CMA53728.1	X76122	Antirrhinum majus
SEQ ID NO. 2008			BAA20411.1	D86386	Catharanthus roseus
CAB61221.1	AJ250396	Antirrhinum majus	BAA09466.1	D50870	Glycine max
CAB71244.1	Y10162	Chenopodium rubrum	CAC41681.1	L34207	Petroselinum crispum
CAB09852.1	AJ011892	Nicotiana tabacum	CAB81559.1	Z37978	Nicotiana tabacum
CAB09853.1	AJ011893	Nicotiana tabacum	BAA11560.1	D82349	Adiantum capillus-veneris
CAB60837.1	AJ002389	Lycopersicon esculentum	CAB58998.1	AJ250315	Petunia x hybrida
CAB61222.1	AJ250397	Antirrhinum majus	SEQ ID NO. 2009		
CAB60638.1	AB002590	Lycopersicon esculentum	CAB75386.1	Y15113	Morinda citrifolia
BAA33153.1	AB008188	Pisum sativum	CAB79853.1	421792	Lycopersicon esculentum
CAB60836.1	AJ002588	Lycopersicon esculentum	CAB79856.1	421793	Lycopersicon esculentum
CAB51789.1	AJ245415	Lycopersicon esculentum	SEQ ID NO. 2010		
CAB61334.1	X88864	Medicago sativa	CAB71878.1	Y10984	Brassica juncea
CBA00540.1	AJ132929	Medicago sativa	AAB71231.1	AF017984	Lycopersicon esculentum
CBA09854.1	AJ011894	Nicotiana tabacum	BAF98157.1	AF258320	Phaseolus vulgaris
CAB61223.1	AJ250398	Antirrhinum majus	SEQ ID NO. 2011		
CBA0541.1	AJ132930	Medicago sativa	AAB72109.1	AF022217	Brassica rapa
BA009769.1	AF011776	Chenopodium rubrum			
CAB53729.1	X76123	Antirrhinum majus			

CRA37847.1	X53851	Daucus carota	SEQ ID NO. 2016	BAW71204.1	Cicor arletinum
AA049336.1	AF166277	Nicotiana tabacum	BAW71204.1	AF211532	Nicotiana tabacum
BAA33062.1	AB017273	Cuscuta japonica	AA049336.1	BAW78746.1	Oryza sativa
CAB36910.1	AJ000691	Quercus suber	BAW78746.1	AB023482	
CAB08908.1	AJ000980	Casanea sativa			
AA333575.1	M11395	Glycine max	SEQ ID NO. 2017		
CRA25578.1	X01104	Glycine max	AA33381.1	102830	Solanum tuberosum
AB038993.1	M11318	Glycine max	AA049336.1	AF211529	Nicotiana tabacum
CRA15447.1	X58711	Medicago sativa	CAB63264.1	AJ251808	Lotus japonicus
AA063310.1	U46544	Helianthus annuus	AA092677.1	U13736	Pisum sativum
CAB08441.1	Z95153	Helianthus annuus	AA092677.1	AF078680	Olea europaea
CRA42222.1	X59701	Helianthus annuus	AA092677.1	AF078680	Olea europaea
CAB37848.1	X53852	Daucus carota	AA092677.1	AF078679	Brassica napus
CAB39360.1	U63631	Fragaria x ananassa	AA010245.1	AF078679	Brassica napus
CAB33672.1	M33899	Pisum sativum	AA010245.1	U0150	Triticum aestivum
AA063311.1	U46545	Helianthus annuus	AA019571.1	U0150	Triticum aestivum
AA033974.1	M11317	Glycine max	AA049586.1	U49104	Triticum aestivum
CRA63303.1	X94193	Pennisetum glaucum	AA049586.1	U49104	Triticum aestivum
AA061532.1	U08601	Papaver somniferum	AA049584.1	U48693	Triticum aestivum
CAB5534.2	AJ237596	Helianthus annuus	AA049580.1	U48689	Triticum aestivum
AA078392.1	U83669	Oryza sativa	AA049579.1	U48688	Triticum aestivum
CAB33910.1	M80939	Oryza sativa	AA049578.1	U48242	Triticum aestivum
BAA02160.1	D12635	Oryza sativa	AA049578.1	U48242	Triticum aestivum
CRA43210.1	X60820	Oryza sativa	AA085156.1	U20296	Solanum tuberosum
CRA37864.1	X53870	Cenopodium rubrum	AA085156.1	U20296	Solanum tuberosum
AA033909.1	M80938	Oryza sativa	AA085155.1	U20295	Solanum tuberosum
AA078393.1	U83670	Oryza sativa	AA085155.1	U20294	Solanum tuberosum
AA039556.1	U81385	Oryza sativa	AA033900.1	U18914	Oryza sativa
AA030454.1	AF123257	Lycopersicon esculentum	AA033900.1	U13882	Pisum sativum
AA033671.1	M33900	Pisum sativum	CRA78288.1	Z12828	Oryza sativa
AA078394.1	U83671	Oryza sativa	SEQ ID NO. 2019		
CRA63302.1	X94191	Pennisetum glaucum	CRA71003.1	109876	Nicotiana tabacum
AA030452.1	X94192	Pennisetum glaucum	AA049388.1	AF215823	Zea mays
CRA46641.1	AF123255	Lycopersicon esculentum	AA073828.1	AF102665	Oryza sativa
CRA63603.1	X56725	Zea mays	BAB19052.1	AB044537	Oryza sativa
AA033909.1	X56138	Lycopersicon esculentum	BA096793.1	AB030939	Oryza sativa
AA030453.1	X92983	Pseudotsuga menziesii	BA096794.1	AB037421	Oryza sativa
AA030453.1	AF123256	Pseudotsuga menziesii	AA041696.1	U69142	Spinacia oleracea
AA033571.1	X92984	Pseudotsuga menziesii	AA034025.1	M31480	Spinacia oleracea
CRA31785.1	X13431	Triticum aestivum	CRA41377.1	X58463	Beta vulgaris
CRA53286.1	X75616	Oryza sativa	CRA41376.1	X58462	Beta vulgaris



AAB72097.1	AF021257	Hordeum vulgare	BAA33062.1	AB017273	Cuscuta japonica
AAB72096.1	AF021256	Hordeum vulgare	AAA33671.1	M33900	Pisum sativum
SEQ ID NO. 2033			BAA02160.1	D12635	Oryza sativa
AAA34181.1	M98466	Lycopersicon esculentum	CAH08441.1	Z95153	Helianthus annuus
AAB39547.1	U63374	Lycopersicon esculentum	CAH4222.1	X59701	Helianthus annuus
AAB38497.1	U79772	Mercurialis annua	CAH08908.1	AJ009880	Castanea sativa
SEQ ID NO. 2034			CAH63901.1	X94191	Pennisetum glaucum
AND15628.1	AF021807	Corylus avellana	CAH78394.1	U93571	Oryza sativa
AHF34133.1	AF161179	Morus x domestica	CAH65641.1	X55725	Zea mays
CAH41546.1	X58710	Medicago sativa	AND09181.1	AF089842	Funaria hygrometrica
CAH41547.1	X58711	Medicago sativa	CAH01560.1	AF007762	Agrostis scolonifera var. palustris
AAA33672.1	M33899	Pisum sativum	SEQ ID NO. 2036		
AAB03893.1	M11318	Glycine max	CAH05276.1	AJ002236	Lycopersicon pimpinellifolium
AND30454.1	U46544	Helianthus annuus	AAH78591.1	AF053993	Lycopersicon esculentum
AND30452.1	AF123257	Lycopersicon esculentum	AAH78596.1	AF053998	Lycopersicon esculentum
AAB53311.1	U46545	Helianthus annuus	CAH05279.1	AJ002237	Lycopersicon esculentum
AND30453.1	AF123256	Lycopersicon esculentum	AAH78593.1	AF053995	Lycopersicon esculentum
CAH63570.1	X92983	Pseudotsuga menziesii	AAH65235.1	U15936	Lycopersicon pimpinellifolium
CAH63903.1	X94193	Pennisetum glaucum	CAH05274.1	AJ002236	Lycopersicon pimpinellifolium
CAH25578.1	X01104	Glycine max	AAH78594.1	AF053997	Lycopersicon esculentum
CAH39603.1	X56138	Lycopersicon esculentum	AAH78596.1	AF053996	Lycopersicon esculentum
AAH61632.1	X92984	Pseudotsuga menziesii	BAH96776.1	AF002521	Oryza sativa
CAH36910.1	AJ000691	Papaver somniferum	BAH08215.1	AF002539	Oryza sativa
CAH55634.2	AJ237596	Quercus suber	CAH05268.1	AJ002235	Lycopersicon hirsutum
AAA33910.1	M80939	Helianthus annuus	AAH05430.1	AF156121	Hordeum vulgare
CAH37846.1	X53852	Oryza sativa	CAH55409.1	BL117265	Oryza sativa
CAH37847.1	X53852	Daucus carota	CAH49123.1	U37133	Oryza sativa
AAH39856.1	M11395	Chenopodium rubrum	CAH00225.1	U72723	Oryza longistaminata
AAH39857.1	U91385	Glycine max	SEQ ID NO. 2038		
AAH39858.1	U91385	Oryza sativa	AND007708.1	U91857	Stylosanthes hamata
CAH43210.1	M09398	Oryza sativa	BAH97123.1	AB015626	Nicotiana glauca
CAH37847.1	X53851	Daucus carota	BAH03248.1	AB037183	Nicotiana glauca
CAH63902.1	X94192	Pennisetum glaucum	BAH76734.1	AB024575	Nicotiana glauca
AAA33974.1	M11317	Glycine max	BAH97122.1	AB015624	Nicotiana glauca
AAH78392.1	U93669	Oryza sativa	CAH96900.1	AJ251250	Catharanthus roseus
AAH39360.1	U63631	Fragaria x ananassa	CAH96899.1	AJ251249	Catharanthus roseus
AAH72109.1	AF022217	Brassica rapa	AAH49740.1	U98256	Lycopersicon esculentum



AAC49741.1	U89257	Lycopersicon esculentum	AAA34173.1	M60166	Lycopersicon esculentum
BAQ07321.1	D38123	Nicotiana tabacum	AAA34094.1	M80489	Nicotiana glauca
AAC50047.1	U89255	Lycopersicon esculentum	CA234052.1	M27888	Nicotiana glauca
RAF05606.1	AF190770	Oryza sativa	CA238221.1	AJ286746	Sesbania rostrata
RAF05616.1	U77655	Solanum tuberosum	CA54045.1	X76535	Solanum tuberosum
BAF97124.1	AD016266	Nicotiana glauca	BAQ06629.1	D31843	Oryza sativa
RAF05619.1	AF057373	Nicotiana tabacum	CA64406.1	X94936	Phaseolus vulgaris
BAF97068.1	N5035270	Matricaria chamomilla	RAF98344.1	AF275745	Lycopersicon esculentum
BAF98748.1	U81157	Nicotiana tabacum	RAF55399.1	AF179442	Lycopersicon esculentum
ADU5623.1	AF084185	Brassica napus	CA54046.1	X76536	Solanum tuberosum
SEQ ID NO. 2040			SEQ ID NO. 2045		
BAF90610.1	AF001129	Oryza sativa	AA669541.1	U18557	Raphanus sativus
CAAF3454.1	X61146	Nicotiana tabacum	CA63983.1	X97318	Raphanus sativus
SEQ ID NO. 2043			AA669540.1	U18556	Raphanus sativus
CAAF4570.1	AF001131	Solanum tuberosum	AA63224.1	U59459	Brassica napus
			CA65984.1	X97319	Raphanus sativus
SEQ ID NO. 2045			SEQ ID NO. 2048		
BAF89544.1	AF001072	Oryza sativa	BAF85400.1	AF000615	Oryza sativa
BAF88191.1	AF000836	Oryza sativa	CA606083.1	Z83834	Hordeum vulgare
BAF90510.2	AF001111	Oryza sativa	CAAF4909.1	Y14573	Hordeum vulgare
AD11618.1	AF050496	Lycopersicon esculentum	CAAF06487.1	AJ005341	Linum usitatissimum
AA134138.1	M96324	Lycopersicon esculentum	SEQ ID NO. 2049		
AD11617.1	AF050495	Lycopersicon esculentum	CAAF63113.1	AF000307	Brassica napus
AD113985.1	AF0506871	Zea mays	CAAF63112.1	AF000306	Brassica napus
AD113986.1	AF145478	Mesembryanthemum crystallinum	CAAF63111.1	AF000305	Brassica napus
AD113987.1	AF150209	Glycine max	AA661638.1	U10275	Flavaria bidentis
CAAF63790.1	X93592	Dunaliella bioculata	AAAF3342.2	M84135	Flavaria bidentis
CAAF63833.1	AF105028	Glycine max	AAAF7399.1	U10277	Flavaria bidentis
CAAF63834.1	X93972	Brassica oleracea	AAAF3343.1	M84136	Flavaria chlorosefolia
ABF58910.1	U82966	Oryza sativa	SEQ ID NO. 2050		
CAAF63824.1	AJ271439	Prunus persica	ADU22970.1	AF124148	Glycine max
ABF60276.1	U00989	Zea mays	CAAF50901.1	AJ238651	Medicago truncatula
BAF01058.1	D10207	Oryza sativa	SEQ ID NO. 2051		
CAAF29435.1	AJ310523	Vicia faba	CAAF4671.1	AF018174	Brassica napus
AD20330.1	AF110268	Oryza sativa	AAAF49357.1	U35830	Pisum sativum
AAAF34098.1	M80490	Nicotiana glauca	CAAF45098.1	X63537	Pisum sativum
AAAF4203.1	AF029257	Kosteletzkya virginica			
CAAF28224.1	AJ286749	Sesbania rostrata			
AD46188.1	AF156691	Nicotiana glauca			

AAFC19392.1	AF069314	Mesembryanthemum crystallinum	AAAF74565.1	AF215851	Spinacia oleracea
CAA33082.1	X14959	Spinacia oleracea	AAAF74566.1	AF215852	Nicotiana tabacum
CAA32111.1	AF051206	Picea mariana	AAAF74568.1	AF215854	Zea mays
BAB20886.1	AB053294	Oryza sativa	SEQ ID NO. 2066		
CAA77847.1	X11803	Nicotiana tabacum	CAA59049.1	X84308	Hordeum vulgare
CAA50681.1	AF001903	Triticum turgidum subsp. durum	SEQ ID NO. 2067		
BAB3695.1	U59380	Brassica napus	AAAF5824.1	AF101788	Pinus taeda
CAA13524.1	D87984	Fagopyrum esculentum	AAAF32448.1	U76296	Spinacia oleracea
CAA94534.1	Z70677	Ricinus communis	AAAF62434.1	AF243181	Lycopersicon esculentum
CAA56850.1	X80887	Chlamydomonas reinhardtii	BAAF0481.1	AB035146	Ipomoea nil
CAA55399.1	X78822	Chlamydomonas reinhardtii	SEQ ID NO. 2068		
AA551522.1	U92541	Oryza sativa	AAAC34983.1	AF039598	Prunus persica
BAAF05546.1	D26547	Oryza sativa	CAA38025.1	X34090	Gossypium hirsutum
AAAF8067.1	AF286593	Triticum aestivum	AAAD8017.1	AF165529	Rumex palustris
CAA41415.1	X58527	Nicotiana tabacum	CAA41188.1	X58230	Nicotiana tabacum
BAAF04864.1	D21836	Oryza sativa	CAA74179.1	Y13865	Beta vulgaris
BAAF25681.1	AB010434	Brassica rapa	CAA28639.1	X04966	Petunia x hybrida
AAAG35777.1	AF273844	Brassica oleracea var. alboglabra	CAA52750.1	X74732	Amaranthus hypochondriacus
U59379		Brassica napus	CAA84525.1	X35160	Solanum tuberosum
AAAF53694.1		Lolium perenne	AAA34907.1	X61915	Pinus thunbergii
AAAD49232.1	AF159387	Hordeum bulbosum	AAA34141.1	M17558	Lycopersicon esculentum
AAAD9230.1	AF159385	Secale cereale	AAAF3392.1	M12152	Lemna gibba
AAAD9231.1	AF159386	Secale cereale	AAAF89205.1	AF279248	Vigna radiata
AAAD9233.1	AF159388	Phalaris coarulescens	CAA40365.1	X57082	Pisum sativum
AAAD9234.1	AF159389	Phalaris coarulescens	BAAF05037.1	U06642	Oryza sativa
AAAF6954.1	AF186240	Secale cereale	AAAF19040.1	U51632	Pinus palustris
BAB39913.1	AF002512	Oryza sativa	AAAF1773.1	X15407	Pinus thunbergii
X78821		Chlamydomonas reinhardtii	AAAF15992.1	AF061577	Lycopersicon esculentum
CAA56851.1	X80888	Chlamydomonas reinhardtii	BAAF05037.1	U06642	Pseudotsuga menziesii
CAA44209.1	X62335	Triticum aestivum	AAAF19040.1	U51632	Oryza sativa
AAAF06735.1	AF005840	Brassica napus	AAAF34142.1	M17539	Pinus palustris
AAAF5358.1	AF160870	Brassica napus	AAAF89205.1	X49749	Oryza sativa
AAAF52409.1	U76631	Spinacia oleracea	AAAF89205.1	AF022739	Glycyrrhiza glabra
CAA35826.1	X51462	Pisum sativum	AAAF0965.1	I23107	Zea mays
CAA53900.1	X76269	Spinacia oleracea	AAAF8641.1	X68682	Solanum tuberosum
AAAC49358.1	U35831	Pisum sativum	AAAF0591.1	U21111	Lycopersicon esculentum
CAA35827.1	X51463	Spinacia oleracea	AAAF34147.1	M14443	Solanum tuberosum
CAA06736.1	AF005841	Oryza sativa	AAAF0593.1	U21113	Solanum tuberosum
SEQ ID NO. 2054			AAAF0589.1	U20983	Nicotiana sylvestris
AAAF74567.1	AF215853	Solanum tuberosum	BAAF25391.1	AB012637	

RAA25396.1	AB012641	Nicotiana sylvestris	CAA43807.1	X61915	Pinus thunbergii
RAA25394.1	AB012639	Nicotiana sylvestris	AAAD8017.1	AF165529	Rumex palustris
RAA80594.1	U21114	Solanum tuberosum	AAAC1592.1	AF061577	Oryza sativa
RAA25389.1	AB012637	Nicotiana sylvestris	X56538	Pisum sativum	
RAA25392.1	AB012638	Nicotiana sylvestris	RAA50172.1	U01964	Glycine max
RAA68425.1	X34396	Polystichum munium	CAA32526.1	X14341	Platist Spinnacia oleracea
RAA57409.1	X81810	Picea abies	CAA334142.1	M17559	Lycopersicon esculentum
RAA50172.1	U01964	Glycine max	CAAL0284.1	AF131044	Cicer arietinum
RAA80592.1	U21112	Solanum tuberosum	CAAC2575.1	AF072931	Medicago sativa
RAA25395.1	AB012640	Nicotiana sylvestris	RAA26741.1	AF220327	Euphorbia esula
RAA25388.1	AB012636	Nicotiana sylvestris	CAA33396.1	M29334	Lemna gibba
CAA41138.1	X58229	Nicotiana tabacum	BAK25398.1	AB012638	Nicotiana sylvestris
RAA25390.1	AB012637	Nicotiana sylvestris	BAK61238.1	AF003129	Mesembryanthemum crystallinum
CAA32300.1	X14794	Nicotiana sylvestris	RAA625398.1	AB012640	Nicotiana sylvestris
RAA34148.1	M14444	Zea mays	RAA80589.1	U20983	Solanum tuberosum
CAA57408.1	X81809	Lycopersicon esculentum	CAA33124.1	M16057	Cucumis sativus
RAA25393.1	AB012638	Nicotiana sylvestris	CAA331419.1	X12981	Glycine max
RAA77273.1	AB026686	Physcomitrella patens	AAA80591.1	U21111	Solanum tuberosum
CAA47950.1	X67714	Pinus contorta	AAA80593.1	U21113	Solanum tuberosum
			AAAB61237.1	AF003128	Mesembryanthemum crystallinum
			CAA41187.1	X58229	Nicotiana tabacum
			BAK24493.1	AB006081	Fagus crenata
			AAA34148.1	M14444	Lycopersicon esculentum
			AAA60965.1	L23107	Ginkgo biloba
			AAA34147.1	M14443	Lycopersicon esculentum
			SEO ID NO. 2070		
			ABAB6942.1	AF031241	Glycine max
			RAK21320.1	AF338252	Glycine max
			CAA20560.1	X60058	Nicotiana tabacum
			CAA20559.1	X60057	Nicotiana tabacum
			CAA49800.1	U58209	Zea mays
			AAAC49899.1	U58208	Zea mays
			ABAB63469.1	AF006625	Oryza sativa
			CAA89834.2	Z49764	Pseudotsuga menziesii
			AAA92743.1	M59449	Zea mays
			SEO ID NO. 2071		
			CAA32764.1	X14609	Cucumis sativus
			CAA41434.1	X58542	Cucumis sativus
			BAK08410.1	D49432	Cucurbita sp.

[illegible]

[illegible]



AAE53100.1	U68218	Brassica napus	BAA77282.1	AB026731	Oryza sativa
AAE94542.1	AF016305	Zea mays	AAC26053.1	AF074940	Glycine max
BAA36274.1	AB015204	Oryza sativa	AAU70837.1	AF019907	Vitis vinifera
AAU18998.1	AF212154	Allium cepa	AAU7108.1	D37870	Spinacia oleracea
AAU01234.1	U57088	Chlamydomonas reinhardtii	AAU30576.1	S70187	Glycine max
SEQ ID NO. 2085			AAU53185.1	AF181096	Vigna unguiculata
AAU01147.1	AF283816	Pinus taeda	AAU28177.1	AF109694	Brassica juncea
CAA95999.1	Z71395	Nicotiana plumbaginifolia	BAA3702.1	AB009592	Oryza sativa
AAU71420.1	U74631	Ricinus communis	AAU36293.1	D85751	Brassica juncea
AAU71419.1	U74630	Ricinus communis	AAU27197.1	AF349449	Oryza sativa
AAU32207.1	AF134733	Prunus armeniaca	CAA53943.1	X78293	Nicotiana tabacum
CAA05161.1	AJ002057	Beta vulgaris	CAA54043.1	X78533	Nicotiana tabacum
AAA32948.1	L27348	Hordeum vulgare	CAA53993.1	X78455	Glycine max
AAA32949.1	L27349	Hordeum vulgare	AAU26175.1	AF105199	Betula pendula
AAU01470.1	AF190454	Zea mays	CAA66332.1	AJ279690	Mesembryanthemum crystallinum
CAA86728.1	Z46772	Zea mays	CAC13956.1	AJ400816	Zea mays
CAA61939.1	X89813	Zea mays	CAA06835.1	AJ006055	Zea mays
AAU17490.1	AF052040	Berberis stolonifera	CAA42921.1	X60373	Pisum sativum
AAU70919.1	AF019376	Brassica napus	CAA62482.1	X90996	Pisum sativum
CAA54975.1	X78057	Zea mays	AAA33962.1	I11632	Glycine max
CAA54526.1	AJ000765	Chlamydomonas reinhardtii	CAA66924.1	X98274	Pisum sativum
AAU85118.1	AB018243	Solanum melongena	SEQ ID NO. 2088		
AAU15502.1	AF325720	Pennisetum ciliare	AAU72193.1	AF069909	Zea mays
CAA57914.1	X82578	Parthenium argentatum	AAU72192.1	AF069908	Zea mays
BAA77025.1	AB026251	Lithospermum erythrorhizon	AAU72194.1	AF069910	Zea mays
SEQ ID NO. 2086			AAU1223.1	U56897	Pisum sativum
AAU07610.1	AF319771	Brassica napus	AAU32149.1	AF051249	Picea mariana
AAU66384.1	AF236368	Zea mays	AAU43837.1	AF166114	Chloroplast Mesostigma viride
AAU66387.1	AF236371	Zea mays	AAU20777.1	AF124755	Pinus banksiana
AAU49690.1	U69154	Nicotiana tabacum	AAU75778.1	I15782	Capsicum annuum
AAU66385.1	AF236369	Zea mays	AAU88295.1	AF024512	Oryza sativa
AAU66386.1	AF236370	Zea mays	SEQ ID NO. 2089		
SEQ ID NO. 2087			CAU17753.1	AJ294543	Dendrobium 'Sonia'
AAU28178.1	AF109695	Brassica juncea	CAU17752.1	AJ294542	Dendrobium 'Sonia'
AAU05408.1	D26392	Cucumis sativus	CAA77151.1	Y18377	Zea mays
AAC41654.1	L41345	Lycopersicon esculentum	AAU7500.1	AF044603	Zea mays
AAU60979.1	U06461	Pisum sativum	BAB03420.1	AF002816	Oryza sativa
BAA77214.1	D85764	Oryza sativa	SEQ ID NO. 2090		





AAD28178.1	AF10695	Brassica juncea	AF195217	AF195217	Pyrus pyrifolia
BAA77214.1	D85764	Oryza sativa			
SEQ ID NO. 2104			SEQ ID NO. 2111		
ACG22606.1	AF258909	Lycopersicon esculentum	BAE78575.1	AB028132	Oryza sativa
ABA11742.1	U02559	Lycopersicon esculentum	BAE78572.1	AB028129	Oryza sativa
ABG22607.1	AF258908	Lycopersicon esculentum	BAE78573.1	AB028130	Oryza sativa
ABG22608.1	AF258910	Lycopersicon esculentum	CMA66601.1	X97942	Nicotiana tabacum
BAA23226.1	D8451	Zea mays	CMA69831.1	AJ242853	Solanum tuberosum
ABG22608.1	AF259793	Lycopersicon esculentum	CA008795.1	AJ009594	Nicotiana tabacum
ABA91741.1	U02558	Lycopersicon esculentum	CAE6606.1	X97947	Nicotiana tabacum
SEQ ID NO. 2106			CAE6605.1	X97945	Nicotiana tabacum
AA74957.1	L31936	Brassica rapa	CAE6604.1	X97946	Nicotiana tabacum
CMA99757.1	T75521	Lycopersicon esculentum	BAE78574.1	AB028131	Oryza sativa
ABA6718.1	U86018	Oryza sativa	BAE78576.1	AB028133	Oryza sativa
AAF78511.1	AF195209	Pyrus pyrifolia	SEQ ID NO. 2113		
SEQ ID NO. 2107			CAA98179.1	Z73951	Lotus japonicus
CAA59409.1	X85038	Spinacia oleracea	BA02904.1	D13758	Oryza sativa
AAD50464.1	AF170026	Chlamydomonas reinhardtii	SEQ ID NO. 2114		
SEQ ID NO. 2108			BAE89009.1	AB027455	Petunia x hybrida
CAA45701.1	X64349	Nicotiana tabacum	BAA36423.1	AB013598	Verbena x hybrida
BAE96365.2	AB043960	Brugiera gymnorhiza	BAA36421.1	AB013596	Perilla frutescens
CAA35601.1	X17578	Solanum tuberosum	BAA36422.1	AB013597	Perilla frutescens
CAA78043.1	Z11399	Lycopersicon esculentum	BAE93039.1	AB033758	Citrus unshiu
BAE02558.1	D13297	Fistula sativum	BAE61847.1	AF130634	Nicotiana tabacum
ARC04608.1	AF037457	Fritillaria agrestis	AAF98390.1	AF287143	Brassica napus
ARC04602.1	X05548	Spinacia oleracea	AAE1077.1	AF139153	Sorghum bicolor
CAA04070.1	X57408	Triticum aestivum	BAE83484.1	AB031274	Scutellaria baicalensis
AAD5562.1	AF139818	Brassica napus	AAE1086.1	AF127218	Forsythia x intermedia
AAE5562.1	AF110780	Volvox carterii f. nagariensis	BAA12737.1	D85186	Gentiana triflora
CAA36674.1	X52427	Lycopersicon esculentum	CAA56230.1	Y18871	Nicotiana tabacum
SEQ ID NO. 2109			CAA54612.1	X77462	Dorotheanthus bellidifloris
CAA55090.1	X78284	Medicago sativa	BAB41019.1	AB047092	Manihot esculenta
CNC12883.1	AJ295006	Nicotiana tabacum	BAB41020.1	AB047093	Vitis vinifera
BAE92864.1	AF001551	Oryza sativa	AAE36653.1	U32644	Nicotiana tabacum
ABE82139.1	AF022736	Oryza sativa	BAB41025.1	AB047098	Vitis vinifera
CAA64625.1	X95313	Chlamydomonas reinhardtii	BAB41023.1	AB047096	Vitis vinifera
			BAB41022.1	AB047095	Vitis vinifera
			BAB41021.1	AB047094	Vitis vinifera









AD37697.1	AF145728	Oryza sativa	CAC10514.1	AU299019	Samanea saman
AF01764.2	AF184277	Glycine max	CA05488.1	AJ271446	Populus tremula x Populus
BAR21017.1	D26578	Daucus carota	tremuloides		
BAR18168.1	AB042766	Zinnia elegans	SEQ ID NO. 2134		
BA93468.1	AB028080	Physcomitrella patens	CA55593.1	X79086	Zea mays
BA05623.1	D26574	Daucus carota	CA55591.1	X79085	Zea mays
BA07699.1	AF145730	Oryza sativa	RAF97508.1	AF242298	Oryza sativa
BA038144.1	AF139497	Prunus armeniaca			
BA063768.2	AF139748	Helianthus annuus	SEQ ID NO. 2135		
BA03463.1	AB028075	Physcomitrella patens	CA44350.1	AF210049	Petunia x hybrida
CA064491.1	X35193	Pimpinella brachycarpa	CA44807.1	X30393	Lycopersicon esculentum
CA064221.1	X34449	Pimpinella brachycarpa			
CA064152.1	X94375	Pimpinella brachycarpa	SEQ ID NO. 2136		
AD37700.1	AF145731	Oryza sativa	AG41776.1	AF212990	Cucurbita maxima
AD37700.1	AF145726	Oryza sativa	BAB12433.1	AB025030	Coptis japonica
CA067695.1	AF005833	Craterostigma plantaginum	AAB17562.1	U72654	Eustoma grandiflorum
CA06728.1	AF005833	Lycopersicon esculentum	CA50547.1	X71656	Solanum melongena
CA062608.1	X91212	Glycine max	AB056282.1	AF155332	Petunia x hybrida
CA063222.1	X92489	Oryza sativa	AB094587.1	AF022458	Glycine max
CA064566.2	X96681	Oryza sativa	AAC39452.1	AF014801	Echscholzia californica
AAF19980.1	AF211193		AAC32913.1	X32885	Echscholzia californica
			AAA32913.1	X70824	Persea americana
SEQ ID NO. 2132		Nicotiana tabacum	CA50155.1	X71657	Solanum melongena
AAF33669.1	AF079871	Nicotiana tabacum	CA50548.1	X71657	Solanum melongena
AAF33670.1	AF079872	Nicotiana tabacum	AB094593.1	AF022464	Glycine max
AB033670.1	U65390	Nicotiana tabacum	AB094588.1	AF022459	Glycine max
CA062555.1	AJ249962	Daucus carota	BA084071.1	AB028151	Antirrhinum majus
CA062554.1	X96390	Lycopersicon esculentum	AB084071.1	AF131772	Papaver somniferum
BA036150.1	AF002092	Oryza sativa	AB084071.1	AF131772	Papaver somniferum
CA062554.1	AF002092	Oryza sativa	CA070571.1	X09423	Nepeta racemosa
CA064856.1	AJ132686	Zea mays	CA070571.1	X09423	Nepeta racemosa
BA036132.1	AF002093	Oryza sativa	CA070571.1	X09423	Nepeta racemosa
AD39492.1	AF145272	Samanea saman	CA070571.1	X09423	Nepeta racemosa
CA061675.1	X79779	Solanum tuberosum	AD37433.1	AF150861	Petunia x hybrida
CA068912.1	X07632	Zea mays	Lycopersicon peruvianum		
CA068912.1	X07632	Zea mays	BA092894.1	AB006790	Petunia x hybrida
CA071598.1	X10579	Vicia faba	BA092894.1	AB006790	Asparagus officinalis
CA05488.1	AJ271447	Populus tremula x Populus	BA092894.1	AB006790	Asparagus officinalis
tremuloides			BA092894.1	AB006790	Nepeta racemosa
AD016278.1	AF090905	Samanea saman	CA070576.1	X09424	Glycine max
AAF01251.1	AF027755	Mesembryanthemum crystallinum	AA094589.1	AF022460	Glycine max
BA084085.1	AB032074	Nicotiana glauca	BA084085.1	AB032074	Asparagus officinalis
AAF36832.1	AF027745	Triticum aestivum	BA084085.1	AB032074	Asparagus officinalis
CA012645.1	AJ225805	Egeria densa	BA084085.1	AB032074	Nicotiana tabacum

Oryza sativa	Y11415	CN072218.1	Y11415	Oryza sativa	AA333118.1	L32701	Cucurbita argyrosperma
Petunia x hybrida	L31996	CN073836.1	L31996	Petunia x hybrida	AA333117.1	L31550	Cucurbita maxima
Gossypium hirsutum	AF336283	BA0819616.1	AF336283	Gossypium hirsutum	BA083538.1	L31552	Cucurbita maxima
Antirrhinum majus	AF006292	CN083399.1	AF006292	Antirrhinum majus	AA333116.1	L31551	Cucurbita maxima
Gossypium hirsutum	AF336286	BA0819619.1	AF336286	Gossypium hirsutum	CN079879.1	Y17331	Cucurbita maxima
Gossypium hirsutum	AF336278	BA0819611.1	AF336278	Gossypium hirsutum	AA77345.1	AF150627	Cucurbita moschata
Lycopersicon esculentum	X95296	CN0846164.1	X95296	Lycopersicon esculentum	AA924465.1	L32700	Cucurbita argyrosperma
Oryza sativa	D88617	BA0833337.1	D88617	Oryza sativa	CN080364.1	Z22647	Cucurbita maxima
Hordeum vulgare	X70879	CA050224.1	X70879	Hordeum vulgare			
Hordeum vulgare	X70877	CA050222.1	X70877	Hordeum vulgare	AA02340.1	Y11410	
Hordeum vulgare	X70876	CA050221.1	X70876	Hordeum vulgare	AA020239.1	Y17938	Nicotiana tabacum
Pimpinella brachycarpa	AF161711	BA0822556.1	AF161711	Pimpinella brachycarpa	CN081443.1	Z26846	Mesembryanthemum crystalli
Oryza sativa	Y11351	CN0721886.1	Y11351	Oryza sativa	AA058348.1	U29095	Triticum aestivum
Lycopersicon esculentum	X95210	CN08467600.1	X95210	Lycopersicon esculentum	AA068962.1	L38855	Glycine max
Glycine max	A0529161	BA081732.1	A0529161	Glycine max	AA060195.1	AC084763	Oryza sativa
Glycine max	A0529160	BA081731.1	A0529160	Glycine max	BA019573.1	AB002109	Oryza sativa
Glycine max	A0529159	BA081730.1	A0529159	Glycine max	BA083625.1	W94726	Nicotiana tabacum
Nicotiana tabacum	A0528649	BA0888221.1	A0528649	Nicotiana tabacum	AA020240.1	U73939	Triticum aestivum
Oryza sativa	D88618	BA083338.1	D88618	Oryza sativa	AA020240.1	U73939	Oryza sativa
Nicotiana tabacum	A0528650	BA0888222.1	A0528650	Nicotiana tabacum	AA058059.1	AD005373	Cratogeomys plantagineus
Petunia x hybrida	Z11397	CN073837.1	Z11397	Petunia x hybrida	AA058059.1	AF100162	Chlamydomonas reinhardtii
Oryza sativa	Y11414	CN072217.1	Y11414	Oryza sativa	AA073067.1	Y12464	Sorghum bicolor
Nicotiana tabacum	A0528652	BA0888224.1	A0528652	Nicotiana tabacum	AA073067.1	AF128443	Glycine max
Glycine max	X95134	CN08467575.1	X95134	Glycine max	AA071142.1	Y10036	Cucumis sativus
Nicotiana tabacum	U72762	BA0814101.1	U72762	Nicotiana tabacum	AA071142.1	Y12465	Sorghum bicolor
Nicotiana tabacum	A0528651	BA0888223.1	A0528651	Nicotiana tabacum	BA085649.1	D26602	Nicotiana tabacum
Hordeum vulgare	U70881	CN050226.1	U70881	Hordeum vulgare	AA056628.1	AF002482	Oryza sativa
Hordeum vulgare	X70878	CN050223.1	X70878	Hordeum vulgare	CA065244.1	X95997	Solanum tuberosum
Glycine max	A0529162	BA081733.2	A0529162	Glycine max	CA057898.1	X82548	Hordeum vulgare
Glycine max	A0529165	BA081736.2	A0529165	Glycine max	CA059329.1	AF062479	Oryza sativa
Lycopersicon esculentum	X98308	CN0866952.1	X98308	Lycopersicon esculentum	CA078113.1	AF007990	Hordeum vulgare
Oryza sativa	D88620	BA082340.1	D88620	Oryza sativa	CN084656.1	X65606	Hordeum vulgare
Oryza sativa	Y11352	CN072187.1	Y11352	Oryza sativa	BA084547.1	U55768	Oryza sativa
Oryza sativa	X96749	CA05525.1	X96749	Oryza sativa	CN084658.1	X65604	Hordeum vulgare
Gossypium hirsutum	AF336285	BA0819618.1	AF336285	Gossypium hirsutum	BA083689.1	AF001968	Oryza sativa
Oryza sativa	Y11350	CN072185.1	Y11350	Oryza sativa	BA082693.1	AF004947	Oryza sativa
AA0813574.1	AC037425	BA0813574.1	AC037425	AA0813574.1	BA083688.1	AB011967	Oryza sativa
X95297	X95297	CN0846415.1	X95297	Lycopersicon esculentum	BA0834675.1	AB011670	Triticum aestivum
					AF141378	AF141378	Zea mays
SEQ ID NO. 2139				Oryza sativa			
BA096751.1	AF002521						









BA88688.1	AB011967	Oryza sativa	BA88688.1	AB028650	Nicotiana tabacum
BA83689.1	AB011968	Oryza sativa	BA81736.1	AB029165	Glycine max
BA34675.1	AB011670	Triticum aestivum	AA33500.1	M73028	Zea mays
BA62693.1	AF004947	Oryza sativa	AG36774.1	AF210616	Zea mays
SEQ ID NO. 2165			BA23339.1	D8619	Oryza sativa
CA72271.1	Y11483	Brassica napus	CA72217.1	Y11414	Oryza sativa
CA72270.1	Y11482	Brassica napus	BA81733.2	AB029162	Glycine max
BA72097.1	AF021257	Hordeum vulgare	BA88224.1	AB028652	Nicotiana tabacum
BA72096.1	AF021256	Hordeum vulgare	CA66952.1	X98308	Lycopersicon esculentum
SEQ ID NO. 2166			SEQ ID NO. 2169		
AA86424.1	U44386	Lycopersicon esculentum	BA95893.1	AF002071	Oryza sativa
AA05766.1	AF192758	Glycine max	CA851834.1	00069	Oryza sativa
SEQ ID NO. 2168			AA809771.1	U67422	Zea mays
AAK19619.1	AF336286	Gossypium hirsutum	CAK11566.1	AF318490	Lycopersicon hirsutum
CA84614.1	X95296	Lycopersicon esculentum	AAK11674.1	AF339747	Catharanthus roseus
CA50224.1	X70879	Hordeum vulgare	AAK13496.1	AF131222	Lophopyrum elongatum
CA50222.1	X70877	Hordeum vulgare	AAK76313.1	AF220603	Lycopersicon esculentum
CA50221.1	X70876	Hordeum vulgare	BA847421.1	U59316	Lycopersicon esculentum
BA23337.1	D88617	Oryza sativa	AAK47423.1	U02271	Lycopersicon pimpinellifolium
BA23338.1	D88618	Oryza sativa	AAK48914.1	U02271	Lycopersicon pimpinellifolium
CA72218.1	Y11415	Oryza sativa	AAK76306.1	AF220602	Lycopersicon hirsutum
CA78386.1	Z13996	Petunia x hybrida	AAK11567.1	AF318491	Brassica napus
AAK19616.1	AF336283	Gossypium hirsutum	AAK25966.1	AF302082	Nicotiana tabacum
CA843399.1	AF006292	Antirrhinum majus	AAK1569.1	AF318493	Nicotiana hirsutum
CA50225.1	X70880	Hordeum vulgare	AAK66615.1	AF142596	Nicotiana tabacum
AAK2256.1	AF161711	Pimpinella brachycarpa	BA803090.1	AC073405	Oryza sativa
AAK19611.1	AF336278	Gossypium hirsutum	BA883373.1	AF000391	Oryza sativa
AAK19617.1	AF336284	Gossypium hirsutum	BA84748.1	AF000359	Oryza sativa
CA72186.1	Y11351	Oryza sativa	CAK7462.1	Y14286	Brassica oleracea
CA87600.1	X99210	Lycopersicon esculentum	CAK7145.1	X98520	Brassica oleracea
AAK19615.1	AF336282	Gossypium hirsutum	CAK71333.1	Y12530	Brassica oleracea
AAK19618.1	AF336285	Gossypium hirsutum	AAK1568.1	AF318492	Lycopersicon hirsutum
BA81732.1	AB029161	Glycine max	BA878764.1	AB023482	Oryza sativa
CA72185.1	Y11350	Oryza sativa	BA94509.1	AB041503	Populus nigra
AAK13574.1	AC037425	Oryza sativa	BA94510.1	AB041504	Populus nigra
BA81731.1	AB029160	Glycine max	SEQ ID NO. 2172		
BA81730.1	AB029159	Glycine max	BA822422.1	AB001379	Glycyrrhiza echinata
CA78387.1	Z13997	Petunia x hybrida			

BA74465.1	AB022732	Glycyrrhiza echinata	AAG34808.1	AF243373	Glycine max
BA74465.1	AJ239051	Cicer arietinum	AAG34809.1	AF243365	Glycine max
BA81490.1	AJ238439	Cicer arietinum	CA71784.1	Y10820	Glycine max
BA91067.1	AJ012581	Cicer arietinum	AF244701		Zea mays
BA93634.1	AJ025016	Lotus japonicus	BA68430.1	J03679	Solanum tuberosum
CA04117.1	AJ000478	Helianthus tuberosus	CA04391.1	AJ000923	Carica papaya
CA04116.1	AJ000477	Helianthus tuberosus	CA04391.1	AF244688	Zea mays
BA056282.1	AF155332	Petunia x hybrida	CA09187.1	AJ010448	Alopecurus myosuroides
BA012139.1	D83968	Glycine max	CA09188.1	AJ010449	Alopecurus myosuroides
BA094590.1	AF022461	Glycine max	AAG34802.1	AF243367	Glycine max
BA055880.1	X96784	Nicotiana tabacum	AAG34805.1	AF243370	Glycine max
AA032913.1	X32885	Persea americana	AAG34832.1	AF244689	Zea mays
BA056742.1	AF175278	Pisum sativum	AAG34837.1	AF244694	Zea mays
CA049188.2	U29333	Cicer arietinum	AAG34836.1	AF244693	Zea mays
AAC49188.2	U29333	Pisum sativum	AAG34849.1	AF244706	Zea mays
AAG44132.1	AF218296	Pisum sativum	CAC24549.1	AJ0296343	Cichorium intybus x Cichorium
BA013076.1	D86351	Glycine max	endivia		
AAC39454.1	AF014802	Eschscholzia californica	AAC32118.1	AF051214	Picea mariana
CA064635.1	X95342	Nicotiana tabacum	AAG34795.1	AF243360	Glycine max
AAC38930.1	AF135485	Glycine max	AAG34841.1	AF244698	Zea mays
BA017562.1	U72654	Eustoma grandiflorum	RAE29773.1	AF159229	Gossypium hirsutum
BA0606790	AB006790	Petunia x hybrida	SEQ ID NO. 2174		
BA081575	AF081575	Petunia x hybrida	BA67714.1	AF013161	Prunus serotina
BA084072.1	AB028152	Torenia hybrida	CA051194.1	X72617	Prunus serotina
CA050155.1	X70824	Solanum melongena	RA038536.1	U78814	Prunus serotina
BA040324.1	AB037245	Azadirachta indica	CA069388.1	Y08211	Prunus dulcis
BA040323.1	AB037244	Azadirachta indica	BA069764.1	AF040079	Prunus serotina
BA074466.1	AB022733	Glycyrrhiza echinata	BA069763.1	AF040078	Prunus serotina
SEQ ID NO. 2173			BA061982.1	AF038866	Prunus serotina
AF064450.1	AF239928	Euphorbia esula	CA061981.1	AF038865	Prunus serotina
AAG34803.1	AF243368	Glycine max	AAC61980.1	AF038864	Prunus serotina
AAG34796.1	AF243361	Glycine max	AAC61980.1	AF038863	Prunus serotina
AAG34809.1	AF243374	Glycine max	AAC61980.1	AF038862	Prunus serotina
AAG34797.1	AF243362	Glycine max	AAC61980.1	AF038861	Prunus serotina
AAG34807.1	AF243372	Glycine max	AAC61980.1	AF038860	Prunus serotina
AAG34798.1	AF243363	Glycine max	AAC61980.1	AF038859	Prunus serotina
AAG34804.1	AF243369	Glycine max	AAC61980.1	AF038858	Prunus serotina
AAG34801.1	AF243366	Glycine max	AAC61980.1	AF038857	Prunus serotina
AAG34810.1	AF243375	Glycine max	AAC61980.1	AF038856	Prunus serotina
AAG34810.1	AF243375	Glycine max	AAC61980.1	AF038855	Prunus serotina
AAC18566.1	AF048978	Glycine max	SEQ ID NO. 2176		
			CA058894.1	X84208	Sinapis alba
			CA076116.1	Y16190	Sinapis alba
			SEQ ID NO. 2177		
			CA068190.1	X99922	Brassica napus



CAA09881.1	Av011939	Trifolium repens	AAA65637.1	I13654	Lycopersicon esculentum
CAA71495.1	Y10469	Spinacia oleracea	CAA71488.1	Y10462	Spinacia oleracea
AA841812.1	L36158	Medicago sativa	AAA32676.1	X37637	Arachis hypogaea
AA01483.1	U51193	Glycine max	AA077389.1	AB024439	Scutellaria baicalensis
AA763024.1	AF244921	Spinacia oleracea	CAA40796.1	X57564	Amoracia rusticana
AA01484.1	U51194	Glycine max			
AA867737.1	L77080	Stylosanthes humilis	SEQ ID NO. 2186		
CAA62226.1	X90693	Medicago sativa	AA034803.1	AF243368	Glycine max
CAA62227.1	X90694	Medicago sativa	AA034797.1	AF243362	Glycine max
AA09851.1	AF007211	Glycine max	AA034798.1	AF243363	Glycine max
BA077387.1	AB024437	Scutellaria baicalensis	AA064450.1	AF239928	Euphorbia esula
CAA67121.1	Y19023	Lycopersicon esculentum	AA034796.1	AF243366	Glycine max
CAA50597.1	X71593	Lycopersicon esculentum	AA034801.1	AF243369	Glycine max
CAA94692.1	AF242742	Ipomoea batatas	AA034804.1	AF243372	Glycine max
AA098491.1	L36981	Petroselinum crispum	AA034807.1	AF243374	Glycine max
AA01481.1	U51191	Glycine max	AA034809.1	AF243375	Glycine max
AA01950.1	D11337	Vigna angularis	AA034802.1	AF243367	Glycine max
AA01482.1	U51192	Glycine max	AA034808.1	AF243373	Glycine max
CAA66037.1	X97351	Populus balsamifera subsp. trichocarpa	AA034844.1	AF244701	Zea mays
AA041810.1	L36156	Medicago sativa	CAA00188.1	AV010449	Alopecurus myosuroides
AA037427.1	AF149277	Phaseolus vulgaris	CAA09187.1	AV010448	Alopecurus myosuroides
BA007664.1	D42065	Nicotiana tabacum	AA068430.1	J03679	Solanum tuberosum
AV401276	AV401276	Zea mays	AA034837.1	AF244694	Zea mays
BA082306.1	BA027752	Nicotiana tabacum	AA034800.1	AF243365	Glycine max
BA007663.1	D42064	Nicotiana tabacum	AA034831.1	AF244688	Zea mays
BA06335.1	D30653	Populus kitakamiensis	AA032118.1	AF051214	Picea mariana
CAA62225.1	X90692	Medicago sativa	AA034805.1	AF243370	Glycine max
AA034050.1	W74103	Nicotiana glauca	AA034806.1	AF048978	Glycine max
AA037430.1	AF149280	Phaseolus vulgaris	AA034829.1	AF244686	Zea mays
AA041811.1	L36157	Medicago sativa	CAA04391.1	AF000923	Carica papaya
AA041441.1	D90116	Amoracia rusticana	AA071784.1	Y10620	Glycine max
BA04877.1	D11012	Populus kitakamiensis	AA034795.1	AF243360	Glycine max
CAA59485.1	X85228	Triticum aestivum	AA034836.1	AF244693	Zea mays
BA014143.1	D90115	Amoracia rusticana	AA034832.1	AF244689	Zea mays
CAA66034.1	X97348	Populus balsamifera subsp. trichocarpa	AA034833.1	AF244690	Zea mays
AA076376.1	Y16778	Spinacia oleracea	AA034849.1	AF244706	Zea mays
AA034108.1	J02979	Nicotiana tabacum	AA034806.1	AF243371	Glycine max
BA096643.1	AP002482	Oryza sativa	CAA09189.1	AV010450	Alopecurus myosuroides
AA032973.1	M73234	Hordeum vulgare	SEQ ID NO. 2187		



AA21062.1	AF216527	Dunaliella tertiolecta	AA19571.1	U10150	Brassica napus
CAA58750.1	X83869	Daucus carota	AA78301.1	Z12839	Lilium longiflorum
RAA33443.1	L15390	Zea mays	BA88540.1	AF000969	Oryza sativa
AAK26164.1	AF027885	Cucumis sativus	SA81594	SA81594	Vigna radiata
RAA12692.1	D84508	Zea mays	CAA36130.1	AF042840	Oryza sativa
BAE47181.1	S82324	Zea mays	AA33900.1	L18914	Oryza sativa
RAA12691.1	D84507	Zea mays	AA34237.1	L20691	Vigna radiata
RAA01179.1	AF289237	Zea mays	CAA78288.1	Z12828	Oryza sativa
BAZ22410.1	D58452	Zea mays	AA33268.1	M27303	Hordeum vulgare
SEQ ID NO. 2191			CA78287.1	Z12827	Oryza sativa
BAA13032.1	D86180	Pisum sativum	AA49587.1	U49105	Triticum aestivum
SEQ ID NO. 2192			AA49586.1	U49104	Triticum aestivum
AA01500.1	AF016713	Lycopersicon esculentum	AA49583.1	U48692	Triticum aestivum
CA007206.1	AJ278966	Brassica napus	AA49585.1	U49103	Triticum aestivum
AAK32034.1	AF023472	Hordeum vulgare	AA49584.1	U48693	Triticum aestivum
AA20002.1	AF213936	Prunus dulcis	AA49582.1	U48691	Triticum aestivum
AA07875.1	AF140606	Oryza sativa	AA49580.1	U48689	Triticum aestivum
BA319760.1	AB052788	Glycine max	AA49579.1	U48688	Triticum aestivum
CAA93316.1	Z69370	Cucumis sativus	AA49578.1	U48242	Triticum aestivum
BA19757.1	AB052785	Glycine max	AA36058.1	AF042839	Oryza sativa
BA19756.1	AB052784	Glycine max	AA85156.1	U20296	Solanum tuberosum
BA869642.1	AF000392	Lotus japonicus	AA010244.1	AF030032	Phaseolus vulgaris
AA016016.1	AF080545	Nepenthes alata	CA36644.1	X52398	Medicago sativa
AA042860.1	AF154330	Prunus dulcis	AA85155.1	U20294	Solanum tuberosum
SEQ ID NO. 2193			BA86399.1	U79736	Helianthus annuus
CA461980.1	X89890	Bidens pilosa	AA62351.1	U20295	Solanum tuberosum
AA73157.1	AF150059	Brassica napus	AA34238.1	L20507	Vigna radiata
BA87825.1	AF000815	Oryza sativa	AA85157.1	U20297	Solanum tuberosum
CA867054.1	X98404	Capsicum annuum	AA33705.1	M80831	Petunia x hybrida
AA887347.1	M88307	Brassica juncea	CA74307.1	X13974	Zea mays
CA27432.1	AF256337	Elaeis guineensis	CA54583.1	X73597	Zea mays
CA42423.1	X59751	Daucus carota	SEQ ID NO. 2194		
AA61148.1	AF1252108	Prunus avium	BA32588.1	AB055807	Monardella charantia
AA92161.1	L13882	Pisum sativum	AA34180.1	J05094	Lycopersicon peruvianum
AA46588.1	U83402	Capsicum annuum	CA834198.1	M59427	Lycopersicon peruvianum
AA33706.1	M80836	Petunia x hybrida	CA861327.1	AJ132473	Amaranthus hypochondriacus
AA65511.1	AF108889	Capsicum annuum	CA460745.1	J040099	Lycopersicon esculentum
CA43143.1	X60738	Malus x domestica	CA447461.1	X67076	Nicotiana tabacum
			CA78265.1	Z12619	Nicotiana tabacum
			CA447460.1	X67075	Nicotiana tabacum





CAC21393.1	AJ401276	Zea mays	BAAL12737.1	D85186	Gentiana triflora
AA559485.1	X85228	Triticum aestivum	BAH9008.1	AB027454	Petunia x hybrida
AA667737.1	177080	Stylosanthes humilis	AAE16647.1	AF190634	Nicotiana tabacum
AC49818.1	A461467	Oryza sativa	CA559450.1	X85138	Lycopersicon esculentum
CA46916.1	X60125	Oryza sativa	AA055985.1	AF165148	Petunia x hybrida
CA66037.1	X37351	Populus balsamifera subsp. trichocarpa	AD2127218	AF127218	Forsythia x intermedia
AA65637.1	L13654	Lycopersicon esculentum	BA048444.1	U82367	Solanum tuberosum
AA81811.1	L36157	Medicago sativa	BA19659.1	AB002818	Petilla frutescens
AAE5364.2	AF247700	Oryza sativa	BAH9009.1	AB027455	Petunia x hybrida
AA98491.1	L36981	Petroselinum crispum	AAE17077.1	AF192453	Sorghum bicolor
CA39486.1	X90692	Medicago sativa	CA54641.1	X77464	Manihot esculenta
CA367121.1	X56011	Triticum aestivum	BA930309.1	AB033758	Citrus unshiu
CA39486.1	X19023	Lycopersicon esculentum	BA62270.1	AF006081	Solanum berthaultii
BA03644.1	D14997	Oryza sativa	AAE98390.1	AF287143	Brassica napus
CA50597.1	X71593	Lycopersicon esculentum	CA54610.1	X77460	Manihot esculenta
BA82306.1	AB027752	Nicotiana tabacum	BA841018.1	AB047091	Vitis labrusca x Vitis vinifera
AA06335.1	D30653	Populus kitakamiensis	AA886473.1	AF028237	Ipomoea purpurea
CA999487.1	AU276227	Hordeum vulgare	AA881683.1	AF000372	Vitis vinifera
BA01950.1	D11337	Vigna angularis	BA841021.1	AB047094	Vitis vinifera
BA07241.1	D38051	Populus kitakamiensis	BA841023.1	AB047096	Vitis vinifera
AA073430.1	AF149280	Phaseolus vulgaris	BA841019.1	AB047092	Vitis vinifera
AA02215.1	AF291667	Pinus sylvestris	AA881682.1	AF000371	Vitis vinifera
CA32972.1	L36093	Hordeum vulgare	BA841017.1	AB047090	Vitis labrusca x Vitis vinifera
CA37713.1	X53675	Triticum aestivum	SEQ ID NO. 2211		
BA802554.1	L37790	Stylosanthes humilis	CA54609.1	X77459	Manihot esculenta
CA871488.1	X10462	Sinapis oleracea	CA54611.1	X77461	Manihot esculenta
CA62597.1	X91172	Raphanus sativus	CA54613.1	X77463	Manihot esculenta
SEQ ID NO. 2210			CA54612.1	X77462	Manihot esculenta
CA54609.1	X77459	Manihot esculenta	AAK28303.1	AF346431	Nicotiana tabacum
CA54613.1	X77463	Manihot esculenta	AA836653.1	X32644	Nicotiana tabacum
CA54611.1	X77461	Manihot esculenta	AA836652.1	X18871	Dortheanthus bellidiformis
CA54612.1	X77462	Manihot esculenta	AA836652.1	X32643	Nicotiana tabacum
AA836653.1	X32644	Nicotiana tabacum	AA828304.1	Y18871	Nicotiana tabacum
AA56231.1	Y18871	Dortheanthus bellidiformis	CA54610.1	X85138	Lycopersicon esculentum
AAK28303.1	AF346431	Nicotiana tabacum	AAE16147.1	AF190634	Nicotiana tabacum
AA836652.1	X32643	Nicotiana tabacum	BA89008.1	AB027454	Petunia x hybrida
AAK28304.1	AF346432	Nicotiana tabacum	AA336423.1	AB013598	Verbena x hybrida
AD04166.1	AF101972	Phaseolus lunatus	BAH9009.1	AB027455	Petunia x hybrida
BA83484.1	AB031274	Scutellaria baicalensis	AA055985.1	AF165148	



AA010385.1	U72254	Oryza sativa	AA049741.1	U89257	Lycopersicon esculentum
CA038443.1	AJ133470	Hevea brasiliensis	BA003248.1	AB037183	Oryza sativa
AA03501.1	AJ1323	Glycine max	AA023899.1	AF193803	Oryza sativa
CA032939.1	M62907	Hordeum vulgare	AA029516.1	U77655	Solanum tuberosum
AA033881.1	AF141654	Nicotiana tabacum	BA071123.1	AB016265	Nicotiana glauca
AA03617.1	M80604	Lycopersicon esculentum	BA071322.1	D38124	Nicotiana tabacum
BA077786.1	AB027431	Oryza sativa	BA076734.1	AB024575	Nicotiana tabacum
BA077787.1	AB027432	Oryza sativa	BA045623.1	AF084185	Brassica napus
CA091554.1	AF027790	Vitis vinifera	AA043549.1	AF211531	Nicotiana tabacum
AA044399.1	AF030771	Hordeum vulgare	AA043546.1	AF211530	Nicotiana tabacum
AA003908.1	AF000081	Citrus sinensis	AA001089.1	AF238231	Hordeum vulgare
AA024921.1	AF311749	Hevea brasiliensis	AA059618.1	AF239616	Hordeum vulgare
AA033946.1	M37753	Glycine max			
AA063542.1	M59443	Nicotiana tabacum	SEQ ID NO. 2216		
AA028732.1	AF112965	Triticum aestivum	BA033203.1	AB001885	Oryza sativa
AA010381.1	U72250	Oryza sativa	BA033201.1	AB001883	Oryza sativa
CA057255.1	X81560	Nicotiana tabacum	BA033204.1	AB001886	Oryza sativa
AA033880.1	AF141653	Nicotiana tabacum	BA033202.1	AB001884	Oryza sativa
AA086541.1	AF030166	Oryza sativa	AA099310.1	AF052585	Malus x domestica
AA063539.1	M60402	Nicotiana tabacum	AA034596.1	AF052690	Raphanus sativus
AA034053.1	M60464	Nicotiana tabacum	AA027547.1	AF269128	Brassica nigra
AA010380.1	U72249	Oryza sativa	AA027546.1	AF269126	Brassica nigra
AA063540.1	M60403	Nicotiana tabacum	AA099309.1	AF052584	Malus x domestica
			AA027695.1	AF016010	Brassica napus
SEQ ID NO. 2215			AA027694.1	AF016011	Brassica napus
BA097122.1	AB016264	Nicotiana glauca	AA027694.1	AF016009	Brassica napus
BA07321.1	D38123	Nicotiana tabacum	BA03206.1	AB001888	Oryza sativa
CA050047.1	D89255	Lycopersicon esculentum	AA02518.1	AF001136	Pinus radiata
BA07324.1	D38126	Nicotiana tabacum	AA024863.1	AF300700	Ipomoea nil
CA026139.1	AF057373	Nicotiana tabacum	BA033200.1	AB001882	Oryza sativa
CA096900.1	AJ251250	Catharanthus roseus			
CA096899.1	AJ251249	Catharanthus roseus	SEQ ID NO. 2227		
BA07068.1	AB035270	Matricaria chamomilla	AA04447.1	U30896	Vigna unguiculata
AA049740.1	U89256	Lycopersicon esculentum			
AA038748.1	U81157	Lycopersicon esculentum	SEQ ID NO. 2232		
BA097124.1	AB016266	Nicotiana glauca	CA009457.1	AJ011010	Cicer arietinum
BA07323.1	D38125	Nicotiana tabacum	CA006309.1	AJ005042	Cicer arietinum
AA043545.1	AF211527	Nicotiana tabacum	CA059162.1	X84684	Brassica oleracea
AA00708.1	U91857	Stylosanthes hamata	CA007236.1	AJ006771	Cicer arietinum
AA05606.1	AF190770	Oryza sativa	CA025984.1	AF020390	Lycopersicon esculentum
AA009248.1	U91982	Stylosanthes hamata	AA061470.1	AF004812	Mangifera indica

CRAL010175.1	AJ012798	Lycopersicon esculentum	AAE66615.1	AF142596	Nicotiana tabacum
CRAS54525.1	X77319	Asparagus officinalis	AAK11566.1	AF318490	Lycopersicon hirsutum
CRAL010173.1	AJ012796	Lycopersicon esculentum	AAK1567.1	AF318491	Lycopersicon hirsutum
AAE70822.1	AF154421	Lycopersicon esculentum	BAE1836.1	AJ243961	Oryza sativa
AAE70821.1	AF154420	Lycopersicon esculentum	BAE92836.1	AB032473	Brassica oleracea
AAE67342.1	AF229795	Vigna radiata	SEQ ID NO. 2235		
CRAL010174.1	AJ012797	Lycopersicon esculentum	CAE90633.1	AJ277743	Fagus sylvatica
AAE21626.1	AF023847	Lycopersicon esculentum	CAE10358.1	AJ277086	Nicotiana tabacum
BAE21492.1	AE046543	Pyrus pyrifolia	CAE10359.1	AJ277087	Nicotiana tabacum
CRAL010128.1	AJ012687	Cicer arietinum	CAE09575.1	AJ286987	Fagus sylvatica
AAE67341.1	AE229794	Vigna radiata	AAE17804.1	AF092431	Lotus japonicus
AAE77377.1	AF064786	Carica papaya	CAE36697.1	AF075579	Mesembryanthemum crystallinum
CRAL010664.1	AJ012578	Carica papaya	CAE72341.1	Y11607	Medicago sativa
AAE28739.1	AF079874	Carica papaya	CAE36698.1	AF075580	Mesembryanthemum crystallinum
AAE12249.1	AF184080	Prunus armeniaca	AAE17805.1	AF092432	Lotus japonicus
CRAL06310.1	AJ005043	Cicer arietinum	AAE43835.1	AF213455	Zea mays
AAE45349.1	AF159124	Vitis vinifera	CAE36700.1	AF075582	Mesembryanthemum crystallinum
SEQ ID NO. 2233			CAE36699.1	AF075581	Mesembryanthemum crystallinum
AAE61805.1	U28007	Lycopersicon esculentum	CAE36698.1	AF075603	Oryza sativa
AAE91337.1	AF249318	Glycine max	CAE93832.1	U81960	Zea mays
AAE91336.1	AF249317	Glycine max	CAE93833.1	AJ277744	Fagus sylvatica
AAE16628.1	AY007545	Brassica napus	AAE11430.1	AF097667	Mesembryanthemum crystallinum
AAE23164	AY023164	Zea mays	CAE35951.1	AF079355	Mesembryanthemum crystallinum
BAE94509.1	AE041503	Populus nigra	CAE09576.1	AJ298988	Fagus sylvatica
AAE21565.1	AY028699	Brassica napus	SEQ ID NO. 2237		
AAE27895.1	AF023165	Zea mays	BAE83352.1	AF000391	Oryza sativa
BAE94510.1	AE041504	Populus nigra	BAE90508.1	AF001111	Oryza sativa
AAE03090.1	AC073405	Oryza sativa	BAE90507.1	AF001111	Oryza sativa
BAE78764.1	AE023482	Oryza sativa	BAE94511.1	AE041505	Populus nigra
AAE25966.1	AF302062	Nicotiana tabacum	CAE94437.1	Z70524	Spirodela polyrrhiza
AAE43496.1	AF131222	Lophopyrum elongatum	SEQ ID NO. 2240		
AAE11674.1	AF339747	Lophopyrum elongatum	CAE63101.1	X92204	Petunia x hybrida
AAE09771.1	U67422	Zea mays	CAE63102.2	X92205	Petunia x hybrida
CAE97692.1	U73295	Catharanthus roseus	BAE84803.1	AF000559	Oryza sativa
AAE47421.1	U59316	Lycopersicon esculentum	BAE03447.1	AF002817	Oryza sativa
AAE76313.1	AF220603	Lycopersicon esculentum	BAE92400.1	AF001366	Oryza sativa
CAE51834.1	U0069	Oryza sativa	SEQ ID NO. 2241		
AAE47423.1	U59315	Lycopersicon pimpinellifolium	SEQ ID NO. 2240		
AAE76306.1	AF220602	Lycopersicon pimpinellifolium	SEQ ID NO. 2241		
AAE48914.1	U02271	Lycopersicon pimpinellifolium	SEQ ID NO. 2241		





CMA68913.1	Y07520	Chlorella kessleri	CMA64789.1	X95542	Cryptomeria japonica
CMA60679.1	Z83829	Picea abies	CMA64793.1	X95546	Metasequoia glyptostroboides
CMA52689.1	AJ132224	Lycopersicon esculentum	CMA64794.1	X95545	Cryptomeria japonica
CMA09419.1	AJ0110942	Lycopersicon esculentum	CMA64790.1	X95543	
CMA47324.1	X66856	Nicotiana tabacum	SEQ ID NO. 2256		
BAB19863.1	AB052884	Oryza sativa	CAA33945.1	J03919	Glycine max
BAU50504.1	AF173655	Beta vulgaris	CMA48297.1	X68215	Pisum sativum
CBA07812.1	Z93775	Vicia faba	CMA48298.1	X68216	Pisum sativum
AB06594.1	U38651	Medicago truncatula	AAU50278.1	AF159030	Glycine max
BAB19864.1	AB052885	Oryza sativa	AAA33944.1	J03920	Glycine max
BAU79761.1	L08196	Ricinus communis	CMA48300.1	X68218	Pisum sativum
CMA52688.1	AJ132223	Lycopersicon esculentum	CMA48299.1	X68217	Pisum sativum
CMA52690.1	AJ132225	Lycopersicon esculentum	CBA61882.1	AJ249996	Lycopersicon esculentum
CMA04511.1	AJ001061	Vitis vinifera	SEQ ID NO. 2257		
CBA107077.1	X09590	Vitis vinifera	CMA0952.1	AJ011892	Nicotiana tabacum
BAB19862.1	AB052883	Oryza sativa	CMA71144.1	Y01162	Chenopodium rubrum
AB062147.1	AF022874	Lycopersicon esculentum	CMA0954.1	AJ011894	Nicotiana tabacum
SEQ ID NO. 2255			CMA61334.1	X98864	Medicago sativa
AAA32899.1	J05233	Brassica napus	CMA40540.1	AJ132329	Medicago sativa
AAK07609.1	AF319771	Brassica napus	CBA51788.1	AJ245415	Lycopersicon esculentum
CMA42478.1	X59808	Raphanus sativus	CBA60836.1	AJ002588	Lycopersicon esculentum
CMA41984.1	X59294	Brassica napus	BAK33153.1	AB008188	Pisum sativum
AAA32988.1	M16860	Brassica napus	CBA60837.1	AJ002589	Lycopersicon esculentum
CMA32692.1	X14555	Brassica napus	CBA61222.1	AJ250397	Antirrhinum majus
CMA41985.1	X59295	Brassica napus	CMA0953.1	AJ011893	Nicotiana tabacum
CMA40980.1	X57850	Brassica napus	CBA61221.1	AJ250396	Antirrhinum majus
CMA57633.1	X82121	Amaranthus hypochondriacus	CBA60838.1	AJ002590	Lycopersicon esculentum
CMA42472.1	X59802	Raphanus sativus	CBA40541.1	AJ132930	Medicago sativa
CA061881.1	U64443	Coffea arabica	CMA09769.1	AJ011776	Chenopodium rubrum
CA061983.1	AF054895	Coffea arabica	BAK86629.1	AB024987	Oryza sativa
CBA76573.1	V16976	Coffea arabica	CBA66642.1	AJ243452	Lycopersicon esculentum
AAK15087.1	AF240004	Sesamum indicum	CBA57555.1	X82035	Oryza sativa
CMA42473.1	X59803	Raphanus sativus	CMA63541.1	X92965	Nicotiana tabacum
ABD32713.1	AF152003	Pegoyrum esculentum	CMA63542.1	X92966	Nicotiana tabacum
CMA35631.1	X17637	Avena sativa	CBA63543.1	X92967	Nicotiana tabacum
CMA42475.1	X59805	Raphanus sativus	CBA64643.1	AJ243453	Lycopersicon esculentum
CMA54152.1	V76737	Avena sativa	CBA46641.1	AJ243451	Lycopersicon esculentum
AAA33374.1	M28832	Helianthus annuus	CBA57556.1	X82036	Oryza sativa
CMA42477.1	X59807	Raphanus sativus			
AAK73008.1	AF262999	Ricinus communis			



[illegible]

Glycine max  
Zea mays  
Zea mays  
Zea mays  
Oryza sativa  
Oryza sativa  
Pisum sativum  
Zea mays  
Medicago sativa  
Medicago sativa  
Lycopersicon esculentum  
Daucus carota  
Glycine max  
Nicotiana tabacum  
Nicotiana tabacum  
Glycine max  
Catharanthus roseus  
Lycopersicon esculentum  
Chenopodium rubrum  
Adiantum capillus-veneris  
  
Lupinus albus  
Lupinus albus  
Gossypium arboreum  
Humulus lupulus  
Humulus lupulus  
Parthenium argentatum  
Helianthus annuus  
Parthenium argentatum  
Parthenium argentatum  
Artemisia annua  
Capsicum annuum  
Lycopersicon esculentum  
Artemisia annua  
Oryza sativa  
Oryza sativa  
Artemisia annua  
Artemisia annua  
Oryza sativa  
Artemisia annua  
Xanthoxera sorbifolium  
Nicotiana tabacum  
Parthenium argentatum

SEQ ID NO.	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278	2279	2280	2281	2282	2283	2284	2285	2286	2287	2288	2289	2290	2291	2292	2293	2294	2295	2296	2297	2298	2299	2300	2301	2302	2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317	2318	2319	2320	2321	2322	2323	2324	2325	2326	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339	2340	2341	2342	2343	2344	2345	2346	2347	2348	2349	2350	2351	2352	2353	2354	2355	2356	2357	2358	2359	2360	2361	2362	2363	2364	2365	2366	2367	2368	2369	2370	2371	2372	2373	2374	2375	2376	2377	2378	2379	2380	2381	2382	2383	2384	2385	2386	2387	2388	2389	2390	2391	2392	2393	2394	2395	2396	2397	2398	2399	2400	2401	2402	2403	2404	2405	2406	2407	2408	2409	2410	2411	2412	2413	2414	2415	2416	2417	2418	2419	2420	2421	2422	2423	2424	2425	2426	2427	2428	2429	2430	2431	2432	2433	2434	2435	2436	2437	2438	2439	2440	2441	2442	2443	2444	2445	2446	2447	2448	2449	2450	2451	2452	2453	2454	2455	2456	2457	2458	2459	2460	2461	2462	2463	2464	2465	2466	2467	2468	2469	2470	2471	2472	2473	2474	2475	2476	2477	2478	2479	2480	2481	2482	2483	2484	2485	2486	2487	2488	2489	2490	2491	2492	2493	2494	2495	2496	2497	2498	2499	2500	2501	2502	2503	2504	2505	2506	2507	2508	2509	2510	2511	2512	2513	2514	2515	2516	2517	2518	2519	2520	2521	2522	2523	2524	2525	2526	2527	2528	2529	2530	2531	2532	2533	2534	2535	2536	2537	2538	2539	2540	2541	2542	2543	2544	2545	2546	2547	2548	2549	2550	2551	2552	2553	2554	2555	2556	2557	2558	2559	2560	2561	2562	2563	2564	2565	2566	2567	2568	2569	2570	2571	2572	2573	2574	2575	2576	2577	2578	2579	2580	2581	2582	2583	2584	2585	2586	2587	2588	2589	2590	2591	2592	2593	2594	2595	2596	2597	2598	2599	2600	2601	2602	2603	2604	2605	2606	2607	2608	2609	2610	2611	2612	2613	2614	2615	2616	2617	2618	2619	2620	2621	2622	2623	2624	2625	2626	2627	2628	2629	2630	2631	2632	2633	2634	2635	2636	2637	2638	2639	2640	2641	2642	2643	2644	2645	2646	2647	2648	2649	2650	2651	2652	2653	2654	2655	2656	2657	2658	2659	2660	2661	2662	2663	2664	2665	2666	2667	2668	2669	2670	2671	2672	2673	2674	2675	2676	2677	2678	2679	2680	2681	2682	2683	2684	2685	2686	2687	2688	2689	2690	2691	2692	2693	2694	2695	2696	2697	2698	2699	2700	2701	2702	2703	2704	2705	2706	2707	2708	2709	2710	2711	2712	
CHAA05648.1	CHAA05971.1	CHAA08935.1	CHAA08758.1	CHAA08757.1	CHAA08393.1	CHAA05379.1	CHAA04578.1	CHAA04261.2	CHAA06762.1	CHAA06345.1	CHAA06340.1	CHAA05911.1	CHAA05910.1	CHAA05406.1	CHAA05362.1	CHAA05334.1	CHAA05057.1	CHAA04785.1	CHAA04556.1	CHAA04311.2	CHAA04261.1	CHAA04168.2	CHAA03542.3	CHAA03442.1	CHAA03369.1	CHAA03554.1	CHAA03556.1	CHAA03550.1	CHAA03512.1	CHAA03450.1	CHAA03280.1	CHAA03131.1	CHAA02933.7	CHAA02948.1	CHAA02908.1	CHAA02903.6	CHAA02850.1	CHAA02843.7	CHAA02843.3	CHAA02807.7	CHAA02750.5	CHAA02620.2	CHAA02562.1	CHAA02534.1	CHAA02510.1	CHAA02451.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CHAA02341.1	CH																																																																																																																																					

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Nicotiana tabacum  
Brassica napus  
Brassica napus  
Oryza sativa  
Brassica napus  
Brassica napus  
Zea mays  
Nicotiana tabacum  
Oryza sativa  
Lycopersicon esculentum  
Nicotiana tabacum  
Nicotiana tabacum  
Lycopersicon esculentum  
Lycopersicon esculentum  
Lycopersicon esculentum  
Nicotiana tabacum  
Nicotiana tabacum  
Oryza sativa  
Glycine max  
Lycopersicon esculentum  
Nicotiana tabacum  
Glycine max  
Lycopersicon esculentum  
Lycopersicon esculentum  
Lycopersicon esculentum  
Solanum tuberosum  
Lycopersicon esculentum  
Hordeum vulgare  
Hordeum vulgare  
Zea mays  
Nicotiana tabacum  
Cucumis sativus  
Oryza sativa  
Hordeum vulgare  
Hordeum vulgare  
Hordeum vulgare  
Mesembryanthemum crystallinum  
Mesembryanthemum crystallinum  
Mesembryanthemum crystallinum  
Hordeum vulgare







AAA33667.1	107500	<i>Pisum sativum</i>	<i>Nicotiana sylvestris</i>
SEQ ID NO. 2294			
CAA71992.1	Y11105	<i>Pisum sativum</i>	<i>Vigna radiata</i>
BAB0790.1	AB058612	Lilium hybrid division I	<i>Spinacia oleracea</i>
AAK0983.1	AY026332	<i>Oryza sativa</i>	<i>Zea mays</i>
CA064615.1	X95297	<i>Lycopersicon esculentum</i>	<i>Oryza sativa</i>
BAA81730.1	AB029159	<i>Glycine max</i>	<i>Oryza sativa</i>
BAA67600.1	X99210	<i>Lycopersicon esculentum</i>	
BAA81731.1	AB029160	<i>Glycine max</i>	
BAB2256.1	AF161711	<i>Empinella brachycarpa</i>	
AAK19615.1	AF136282	<i>Gossypium hirsutum</i>	
AAK76388.1	Z13998	<i>Petunia x hybrida</i>	
BAA88221.1	AB028649	<i>Nicotiana tabacum</i>	
BAA88224.1	AB028652	<i>Nicotiana tabacum</i>	
BAA81732.1	AB029161	<i>Glycine max</i>	
CA064614.1	X95296	<i>Lycopersicon esculentum</i>	
AAK19617.1	AF336284	<i>Gossypium hirsutum</i>	
AAK19611.1	AF336278	<i>Gossypium hirsutum</i>	
BAA23337.1	D88617	<i>Oryza sativa</i>	
CA078387.1	Z13997	<i>Petunia x hybrida</i>	
CAC19439.1	AB237661	<i>Oryza sativa</i>	
AAK19619.1	AF336286	<i>Gossypium hirsutum</i>	
CAB40189.1	AJ133638	<i>Avena sativa</i>	
BAA96421.1	AB044084	<i>Triticum aestivum</i>	
BAA88223.1	AB028651	<i>Nicotiana tabacum</i>	
BAB41101.1	U72762	<i>Nicotiana tabacum</i>	
CAB61021.1	X87690	<i>Nicotiana tabacum</i>	
BA02863.1	AY008492	<i>Hordeum vulgare</i>	
AA031395.1	AF114162	<i>Lolium temulentum</i>	
BAA88222.1	AB028650	<i>Nicotiana tabacum</i>	
CA050221.1	X70876	<i>Hordeum vulgare</i>	
CA050222.1	X70877	<i>Hordeum vulgare</i>	
CA050224.1	X70879	<i>Hordeum vulgare</i>	
CA050225.1	X11415	<i>Oryza sativa</i>	
AAK198499	AF198499	<i>Nicotiana tabacum</i>	
BAA81736.1	AB029165	<i>Glycine max</i>	
CA078386.1	Z13996	<i>Petunia x hybrida</i>	
SEQ ID NO. 2296			
AAK75791.1	AF271892	<i>Pisum sativum</i>	<i>Nicotiana tabacum</i>
			<i>Arabis cordata</i>
			<i>Populus deltoides</i>
			<i>Populus balsamifera subsp. trichocarpa</i>
			<i>Populus tremuloides</i>
			<i>Nicotiana tabacum</i>
			<i>Nicotiana tabacum</i>
			<i>Medicago sativa</i>
			<i>Medicago sativa</i>
			<i>Eucalyptus globulus</i>
			<i>Eucalyptus gunnii</i>
			<i>Eucalyptus saligna</i>
			<i>Eucalyptus gunnii</i>
			<i>Lolium perenne</i>
			<i>Zea mays</i>
			<i>Zea mays</i>
			<i>Saccharum officinarum</i>
			<i>Zinnia elegans</i>
			<i>Picea abies</i>
			<i>Picea abies</i>
			<i>Picea abies</i>
			<i>Picea abies</i>
			<i>Pinus radiata</i>
			<i>Pinus taeda</i>
			<i>Pinus taeda</i>
			<i>Eucalyptus botryoides</i>
			<i>Fragaria x ananassa</i>
			<i>Fragaria x ananassa</i>
			<i>Mesembryanthemum crystallinum</i>
			<i>Medicago sativa</i>
			<i>Stylosanthes humilis</i>
			<i>Brassica napus</i>

AA15467.1	U24561	Apium graveolens	RAA25392.1	AB012638	Nicotiana sylvestris
RAF23411.1	AF207554	Brassica oleracea	AA080593.1	U21113	Solanum tuberosum
RAF23412.1	AF207555	Brassica rapa	AA080589.1	U20983	Solanum tuberosum
RAF61854.1	AF067082	Apium graveolens	RAA25389.1	U2112637	Nicotiana sylvestris
RAF23410.1	AF207553	Brassica napus	AA080592.1	U21112	Solanum tuberosum
RAF74883.1	I36456	Strylosanthes humilis	CAA32900.1	X14794	Zea mays
RA018000.1	AF109157	Eucalyptus globulus	RAA25394.1	AB012639	Nicotiana sylvestris
RAF72100.1	AF146691	Lycopersicon esculentum	RAA25391.1	AB012637	Nicotiana sylvestris
RAF63410.1	X92734	Hordeum vulgare	AA050172.1	U019644	Glycine max
RAF23416.1	AF207559	Brassica rapa	RAA25396.1	AB012641	Nicotiana sylvestris
SEQ ID NO. 2299			RAA25390.1	AB012637	Nicotiana sylvestris
AA087047.1	U45958	Nicotiana alata	BA07273.1	I35064	Prunus persica
RAA15893.1	U08587	Nicotiana alata	AA050310.1	AB012638	Nicotiana sylvestris
SEQ ID NO. 2301			RAA25393.1	AB012636	Nicotiana sylvestris
RAA34983.1	AF039598	Prunus persica	BA03104.1	D14002	Lactuca sativa
CAA338025.1	X54090	Gossypium hirsutum	AAA34148.1	M1444	Lycopersicon esculentum
CAA28639.1	X04966	Petunia x hybrida	AAA68425.1	M34396	Polystichum munifitum
CAA41189.1	X58230	Nicotiana tabacum	SEQ ID NO. 2302		
CAA74179.1	X13865	Beta vulgaris	RAF78062.1	AF266760	Vicia faba
CAA84525.1	X35160	Solanum tuberosum	RAA32777.1	AB012044	Raphanus sativus
CAA52750.1	X74732	Amaranthus hypochondriacus	CAA64895.1	X95639	Brassica oleracea
RAF89205.1	AF279248	Vigna radiata	CAA64896.1	X95640	Brassica oleracea
RA048017.1	AF165529	Rumex palustris	RAA92259.1	AB030696	Raphanus sativus
CAA30365.1	X57082	Pisum sativum	RAA92258.1	AB030695	Raphanus sativus
RAA34141.1	M17558	Lycopersicon esculentum	RAA90556.1	AF188843	Vitis vinifera
RAA33392.1	M12152	Lemna gibba	CAA04552.1	AF001292	Crucifera plantaginum
CAA43907.1	X61915	Pinus thunbergii	RAA26755.1	AF326488	Zea mays
RAA05992.1	AF061577	Oryza sativa	RAA26754.1	AF326487	Zea mays
RAA00537.1	D00642	Oryza sativa	AA029676.1	AF131201	Zea mays
CAA31773.1	X13407	Pinus thunbergii	AA081601.1	AF024511	Nicotiana tabacum
RAA19040.1	U51632	Pinus palustris	RAA67870.1	U60149	Beta vulgaris
CAA89823.1	Z49749	Pseudotsuga menziesii	CAA54233.1	X76911	Hordeum vulgare
AAA34142.1	M17559	Lycopersicon esculentum	CAA52069.1	X73848	Lycopersicon esculentum
RAA82142.1	AF022739	Oryza sativa	BA040142.1	AB058679	Pyrus communis
AA060965.1	I23107	Ginkgo biloba	RAA0557.1	AF188844	Vitis vinifera
CAA48641.1	X68682	Zea mays	CAA33802.1	AF271796	Zea mays
AA080594.1	U21114	Solanum tuberosum	RAA26756.1	AF326489	Zea mays
RAA0591.1	U21111	Solanum tuberosum	AA082140.1	AF022737	Oryza sativa
AAA34147.1	M14443	Lycopersicon esculentum	CAA11025.1	AF222973	Lupinus albus

CRB46350.1	Y18311	Solanum tuberosum	CAB46228.1	Y18055	Arachis hypogaea
SEQ ID NO. 2303			CAF21062.1		Dunaliella tertiolecta
RAF26503.1	AF196966	Citrus sinensis	CAB89202.1	249233	Chlamydomonas eugametos
RAF18584.1	AF118132	Solanum elaeagnae	RAF23900.1	AF194413	Oryza sativa
RAF18585.1	AF118133	Nicotiana tabacum	RAF23901.2	AF194414	Oryza sativa
RAF14186.1	AF108068	Solanum tuberosum	CAC78858.1	AF030879	Solanum tuberosum
RAF35735.1	AF208543	Lycopersicon esculentum	CAC78859.1	X83869	Daucus carota
CMA63966.1	X94302	Solanum tuberosum	CMA47181.1	582324	Zea mays
			BAA22410.1	D38432	Zea mays
			BAA12691.1	D84507	Zea mays
			BAA12692.1	D84508	Zea mays
SEQ ID NO. 2304			CAG01179.1	AF289237	Tradescantia virginiana
BAA88537.1	AF035944	Fragaria x ananassa	CAC24961.1	AF009337	Oryza sativa
BAA81750.1	AB017516	Marchantia polymorpha	BAA90814.1	AF001168	Picea mariana
BAA81751.1	AB017517	Marchantia polymorpha	CAC32116.1	AF051211	Picea mariana
BAA81749.1	AB017515	Marchantia polymorpha	AAF06970.1	AF162662	Kalanchoe fedtschenkoi
BAA81748.1	AB017515	Marchantia polymorpha	AAF06969.1	AF162661	Kalanchoe fedtschenkoi
AA017800.1	AF090835	Nesembryanthemum crystallinum			
BAA12715.1	D85039	Zea mays	SEQ ID NO. 2305		
BAA12716.1	D85039	Tortula ruralis	AA065871.2	U63784	Catharanthus roseus
BAA9584.1	U92087	Cucurbita pepo	CAB65911.1	AJ249831	Lemna minor
BAA49405.1	D08140	Vigna radiata	AA018999.1	AF212155	Allium cepa
CMA57157.1	X81394	Oryza sativa	CAC26855.1	AF069951	Enteromorpha intestinalis
U28376		Zea mays	CAC49896.1	AF027727	Chlamydomonas reinhardtii
CMA07481.1	AJ007366	Zea mays	RA02069.1	AF036939	Chlamydomonas reinhardtii
BAA13232.1	D87042	Zea mays			
BAA12338.1	D84408	Zea mays	SEQ ID NO. 2313		
AA080693.1	D69174	Glycine max	CMA73067.1	Y12464	Sorghum bicolor
RA025423.1	AF072508	Nicotiana tabacum	AA073068.1	Y12465	Sorghum bicolor
AA028192.2	AF115406	Solanum tuberosum	AA062695.1	AF004947	Oryza sativa
BAA13440.1	D87727	Ipomoea batatas	RA022219.1	AF141378	Zea mays
CMA65500.1	X96703	Medicago sativa	BAA83688.1	AB011967	Oryza sativa
AA061682.1	L27484	Zea mays	BAA34675.1	AB011670	Triticum aestivum
AA033443.1	L15390	Zea mays	BAA83689.1	AB011968	Oryza sativa
BAA85396.1	AF000615	Oryza sativa	BAA96628.1	AF002482	Oryza sativa
AA05270.1	AF048691	Oryza sativa	BA005649.1	D26602	Nicotiana tabacum
CMA39936.1	X56599	Daucus carota	AA023582.1	AF128443	Glycine max
CMA57156.1	X81393	Oryza sativa	CMA71142.1	Y10036	Cucumis sativus
BAA80692.1	D69173	Glycine max	AA057898.1	X82548	Hordeum vulgare
BA02698.1	D13436	Oryza sativa	CAC99329.1	AF062479	Oryza sativa
BAA6110.1	AC073166	Oryza sativa	CMA65244.1	X95997	Solanum tuberosum
RA021614.1	AY027885	Cucumis sativus			

AA05457.1	055768	Oryza sativa	AA013252.1	AF022012	Lycopersicon esculentum
CA07813.1	AF007990	Hordeum vulgare	AA013262.1	AF022022	Lycopersicon esculentum
CA04656.1	X65600	Hordeum vulgare	AA013263.1	AF022013	Lycopersicon esculentum
CA04654.1	X65604	Hordeum vulgare			
CA08902.1	249233	Chilamydomonas eugametos	SEQ ID NO. 2315		
AA00239.1	U73938	Nicotiana tabacum	BA019880.1	AB052887	Oryza sativa
BA06962.1	U73938	Nicotiana tabacum	AF012877.1	AF205377	Chilamydomonas reinhardtii
BA06962.1	U73938	Glycine max	AF012877.1	AF205377	Pinus taeda
BA06962.1	U73938	Dunaliella tertiolecta	BA017626.1	AB033537	Oryza sativa
BA06962.1	U73938	Triticum aestivum			
BA06962.1	U73938	Nicotiana tabacum	SEQ ID NO. 2316		
BA06962.1	U73938	Oryza sativa	AA000708.1	U91857	Stylosanthes hamata
BA06962.1	U73938	Oryza sativa	AA019741.1	U92357	Lycopersicon esculentum
BA06962.1	U73938	Daucus carota	BA003248.1	AB037183	Oryza sativa
BA06962.1	U73938	Oryza sativa	BA097123.1	AB016265	Nicotiana glauca
BA06962.1	U73938	Craterostigma plantaginaceum	AA029516.1	U77655	Solanum tuberosum
BA06962.1	U73938	Ipomoea batatas	BA076734.1	AB024575	Nicotiana tabacum
BA06962.1	U73938	Fragaria x ananassa	BA038748.1	U81157	Nicotiana tabacum
BA06962.1	U73938		BA097124.1	AB016266	Nicotiana glauca
SEQ ID NO. 2314					
AA032146.1	AF123508	Nicotiana tabacum	SEQ ID NO. 2322		
AA032147.1	AF123509	Nicotiana tabacum	AAA33376.1	I36129	Helianthus annuus
BA085821.1	AB026822	Cucumis sativus	BA007108.1	D37870	Spinacia oleracea
AA032145.1	AF123507	Nicotiana tabacum	BA004664.1	D21836	Oryza sativa
AA032144.1	AF123506	Nicotiana tabacum	BA00546.1	D26547	Oryza sativa
CA048297.1	X68215	Pisum sativum	BA051522.1	U92541	Oryza sativa
AA032142.1	AF123504	Nicotiana tabacum	BA036283.1	D85751	Oryza sativa
BA085822.1	AB026823	Cucumis sativus	BA037092.1	AB009592	Oryza sativa
BA085822.1	X68215	Pisum sativum	CA006835.1	AJ006055	Zea mays
AA032143.1	AF123505	Nicotiana tabacum			
AA032143.1	AF022020	Lycopersicon esculentum	SEQ ID NO. 2326		
AA032143.1	AF022018	Lycopersicon esculentum	AA083439.1	U16123	Zea mays
BA085820.1	AB026821	Cucumis sativus	AA050305.1	I29099	Solanum tuberosum
CA048300.1	X68218	Pisum sativum	BA048484.1	U87849	Capsicum annuum
AA032141.1	AF022021	Lycopersicon esculentum	BA001954.1	D11350	Lycopersicon esculentum
AA032141.1	AF022015	Lycopersicon esculentum	CA047636.1	X67163	Daucus carota
AA032141.1	AF022017	Lycopersicon esculentum			
BA078739.1	AB023482	Oryza sativa	SEQ ID NO. 2327		
AA032141.1	AF022019	Lycopersicon esculentum	AA027878.1	AF139466	Vigna radiata
BA095840.1	AF020270	Oryza sativa	AA014566.1	AF058796	Oryza sativa
CA061887.1	AJ024996	Lycopersicon esculentum	CA090681.1	250801	Zea mays
AA032141.1	AF022014	Lycopersicon esculentum			









CMA55640.1	X79005	Nicotiana tabacum	AAA20186.1	L10633	Zea mays
CMA55639.1	X79004	Nicotiana tabacum	CMA49736.1	X70184	Lupinus albus
RAA82736.1	U17979	Zea mays	AAA19709.1	L10636	Zea mays
RAA67607.1	U73459	Zea mays	CMA37062.1	X52878	Zea mays
RAA664289.1	AF007580	Zea mays	AAA01090.1	U76896	Triticum aestivum
RAA021152.1	D12627	Oryza sativa	RAA03267.1	U47660	Lupinus albus
RAA21260.1	RA046116	Oryza sativa	AAA04829.1	X69185	Artemia phyllitidis
CMA55741.1	X79140	Nicotiana tabacum	CAA38613.1	X54844	Pisum sativum
BAE21238.1	RA046415	Oryza sativa	RAA99439.1	X24547	Volvox carterii
BAE21238.1	RA046414	Oryza sativa	CAA31334.1	X12855	Volvox carterii
BAE21238.1	RA046414	Oryza sativa	CAA34009.1	X21296	Glycine max
RAA19805.1	AF180356	Brassica oleracea	AAA33102.1	X03281	Chlamydomonas reinhardtii
CMA33514.1	X51206	Nicotiana glauca	AAA33101.1	ML0064	Chlamydomonas reinhardtii
CMA55740.1	X79139	Nicotiana tabacum	AAE60936.1	AF001379	Chlamydomonas reinhardtii
RAA76677.1	X17186	Pisum sativum	AAA34010.1	X21297	Glycine max
RAA205980.1	AF079782	Zea mays	AAE64308.1	U63927	Daucus carota
SEQ ID NO. 2342			AAA19707.1	L10635	Zea mays
RAA10489.1	U76746	Triticum aestivum	CMA52718.1	X74654	Zea mays
RAA10490.1	U76895	Triticum aestivum	AAA33804.1	X33371	Polytomella agilis
AAK09229.1	AC084320	Oryza sativa	AAA33803.1	X33373	Polytomella agilis
BAK02505.1	D13224	Oryza sativa	AAE03892.1	X33372	Polytomella agilis
RAA20178.1	AF059287	Eleusine indica	CAA38614.1	X54845	Pisum sativum
CMA3847.1	X33382	Solanum tuberosum	BAE82639.1	D63138	Zinnia elegans
RAA20180.1	AF059289	Eleusine indica	CAA38615.1	X54846	Pisum sativum
RAA06381.1	D30716	Oryza sativa	SEQ ID NO. 2345		
RAA06382.1	D30717	Oryza sativa	RAA21326.1	RA006604	Petunia x hybrida
RAA19708.1	L10634	Zea mays	RAA21924.1	RA006602	Petunia x hybrida
CMA55022.1	X78143	Oryza sativa	RAA19112.1	RA000453	Petunia x hybrida
RAA70891.1	X09741	Cicer arietinum	SEQ ID NO. 2346		
RAA70506.1	X98406	Hordeum vulgare	RAA19619.1	AF336286	Gossypium hirsutum
RAA10487.1	U76744	Triticum aestivum	CAE46414.1	X95296	Lycopersicon esculentum
CMA55912.1	U79367	Oryza sativa	CAE46414.1	X95296	Hordeum vulgare
CMA55912.1	X33402	Solanum tuberosum	CAE50224.1	X70879	Hordeum vulgare
RAA82637.1	D63136	Zinnia elegans	CAE50222.1	X70877	Hordeum vulgare
RAA20181.1	AF059290	Eleusine indica	CAE50221.1	X70876	Hordeum vulgare
RAA82638.1	D63137	Zinnia elegans	RAA23337.1	D88617	Oryza sativa
RAA20488.1	U76745	Triticum aestivum	RAA23338.1	D88618	Oryza sativa
RAA20179.1	AF059288	Eleusine indica	CAE72218.1	Y11415	Oryza sativa
RAA52720.1	X74656	Zea mays	CAE50225.1	X70880	Hordeum vulgare
CAE52719.1	X74655	Zea mays	CAA78386.1	X213996	Petunia x hybrida
CAA37061.1	X52879	Zea mays			

BAR1732.1	AB029161	Glycine max	CAA10608.1	AU132228	Ricinus communis
AAK19616.1	AF336283	Gossypium hirsutum	SEQ ID NO. 2348		
AAK19611.1	AF336278	Gossypium hirsutum	AF129479		Hordeum vulgare
AAK19617.1	AF336284	Gossypium hirsutum	AB055630		Phragmites australis
AAK19615.1	AF336282	Gossypium hirsutum	BA32443.1		Phragmites australis
CBA43399.1	AJ0066292	Antirrhinum majus	BA32444.1		Phragmites australis
CA721285.1	Y11350	Oryza sativa	BA32442.1		Phragmites australis
BAR22256.1	AF161711	Pimpinella brachycarpa	BA32447.1		Oryza sativa
BA613574.1	AC037425	Oryza sativa	BA36497.1		Hordeum vulgare
BAR1731.1	AB029160	Glycine max	AAK36496.1		Hordeum vulgare
BAR1730.1	AB029159	Glycine max	AAK36492.1		Hordeum vulgare
BAR2186.1	Y11351	Oryza sativa	CAC15061.1		Hordeum vulgare
CAR75509.1	X99210	Lycopersicon esculentum	SEQ ID NO. 2349		
CAR75600.1	Y15219	Oryza sativa subsp. indica	AAK40430.1		Mesembryanthemum crystallinum
CAR78387.1	Z13997	Petunia x hybrida	AAC04324.1		Nicotiana tabacum
BAR1736.1	AB029165	Glycine max	AAK19553.1		Oryza sativa
AAK19618.1	AF336285	Gossypium hirsutum	BA33479.1		Zea mays
CAR72217.1	Y11414	Oryza sativa	AAK01534.1		Nicotiana tabacum
AAK33500.1	MT3028	Zea mays	CA666233.1		Nicotiana tabacum
AAK36774.1	AF210616	Nicotiana tabacum	CAR76700.1		Antirrhinum majus
BAR88222.1	AB028650	Nicotiana tabacum	Y17225		Lycopersicon esculentum
BAR1733.2	AB029162	Glycine max	CAC15504.1		Lycopersicon esculentum
BA23339.1	D88619	Oryza sativa	AAK28617.1		Medicago sativa
BAR88224.1	AB028652	Nicotiana tabacum	AAC41680.1		Petroselinum crispum
BAR88221.1	AB028649	Nicotiana tabacum	CAC15503.1		Lycopersicon esculentum
BAR41101.1	U72762	Nicotiana tabacum	BAK33152.1		Pisum sativum
SEQ ID NO. 2347			CAA50038.1		Medicago sativa
CAR70968.1	Y09825	Solanum tuberosum	BAK18271.1		Chlamydomonas reinhardtii
AAK15946.1	Y098136	Vicia faba	CAR76701.1		Lycopersicon esculentum
CAR70969.1	Y09826	Solanum tuberosum	CAR71242.1		Chenopodium rubrum
BAR96830.1	U64823	Nicotiana sylvestris	BAK41548.1		Medicago sativa
CAU07563.1	AJ007574	Ricinus communis	CAR73323.1		Medicago sativa
BAR48944.1	U31932	Nicotiana sylvestris	CAA70099.1		Medicago sativa
AAK16015.1	AF080344	Nepenthes alata	CAK58761.1		Nicotiana tabacum
CAR70778.1	Y09591	Vicia faba	BAK21673.1		Allium cepa
AAK15944.1	AF061434	Vicia faba	CAA50036.1		Nicotiana tabacum
AAK15945.1	AF061435	Vicia faba	BAK81419.1		Pisum sativum
AAK76897.1	AF274032	Atriplex hortensis	AAK37790.1		Pisum sativum
AAK16014.1	AF080543	Nepenthes alata	CAK57719.1		Ipomoea batatas
AAK25161.1	AF014809	Lycopersicon esculentum	CAR73997.1		Medicago sativa
					Petunia x hybrida





CMA74661.1	Y14285	Brassicaceae	CMA53076.1	X75327	Pisum sativum
AAA33000.1	M76647	Brassicaceae	AAA33843.1	S77096	Brassica napus
AA979355.1	Z18921	Brassicaceae	AA643027.1	AF323586	Oryza sativa
CBA41878.1	Y18259	Brassicaceae	AA649268.1	U12196	Sorghum bicolor
BAA07576.1	D38563	Brassicaceae	AAC49267.1	U12195	Sorghum bicolor
BAA06285.1	D30049	Brassicaceae			
BAA21132.1	D88193	Brassicaceae	SEQ ID NO. 2367		
BAA07577.2	D38564	Brassicaceae	BAA67737.1	L77080	Stylosanthes humilis
BAA02836.1	AB032473	Brassicaceae	BAA32676.1	K73637	Arachis hypogaea
BAA21001.1	AB054061	Brassicaceae	CMA64411.1	X84943	Lycopersicon esculentum
BAA52837.1	AF082874	Brassicaceae	CMA71494.1	H10468	Spinacia oleracea
AAU52097.1	AF088885	Nicotiana tabacum	BAA82307.1	AB027753	Nicotiana tabacum
AAK21965.1	AY028659	Brassicaceae	BAA11853.1	D83225	Populus nigra
AAA33915.1	I27821	Oryza sativa	AAC05277.1	AF049881	Linum usitatissimum
BAA94529.2	AF001800	Oryza sativa	CMA80502.1	Z22920	Spirodelia polyrrhiza
AAAF34428.1	AF172282	Oryza sativa	BAA08499.1	D49551	Oryza sativa
AA603090.1	AC073405	Oryza sativa	CMA66034.1	X97348	Populus balsamifera subsp.
BAA94516.1	AF001800	Oryza sativa	trichocarpa		
			AAD37430.1	AF149280	Phaseolus vulgaris
SEQ ID NO. 2364			CMA94692.1	AJ242742	Ipomoea batatas
AAAC03055.1	AF045770	Oryza sativa	AAD37429.2	AF149279	Phaseolus vulgaris
AAA34025.1	K31480	Spinacia oleracea	AA6763027.1	AF244924	Spinacia oleracea
AA841696.1	U69142	Spinacia oleracea	CMA66037.1	X97351	Populus balsamifera subsp.
BAA21098.1	AB001348	Oryza sativa	trichocarpa		
BAA96794.1	AB037421	Oryza sativa	CMA40796.1	X57564	Amoracia rusticana
BAB18543.1	AB043539	Avicennia marina	CMA66035.1	X97349	Populus balsamifera subsp.
CBA41376.1	Z58462	Beta vulgaris	trichocarpa		
CMA41377.1	Z58463	Beta vulgaris	BAA06334.1	D30652	Populus kitakamiensis
BAA64398.1	AF215823	Zea mays	BAD11481.1	U51191	Glycine max
BAB19052.1	AB044537	Oryza sativa	BAA77389.1	AB024439	Scutellaria baicalensis
BAB11003.1	X09876	Nicotiana tabacum	CMA67121.1	H19023	Lycopersicon esculentum
AAAF3828.1	AF162665	Oryza sativa	AA650597.1	X71593	Lycopersicon esculentum
AA873028.1	AF017150	Amaranthus hypochondriacus	AAD1482.1	U51192	Glycine max
CMA49425.1	X69770	Atriplex horreensis	AAU71489.1	X10463	Spinacia oleracea
AAAS8165.1	AF000132	Amaranthus hypochondriacus	BAA07241.1	D38051	Populus kitakamiensis
BAA96793.1	AB030939	Oryza sativa	CMA559487.1	X85230	Triticum aestivum
BAB18544.1	AB043540	Avicennia marina	AA655637.1	L13654	Lycopersicon esculentum
BAA05466.1	D26448	Hordium vulgare	AA602215.1	AF291667	Pinus sylvestris
AAAF08296.1	AF196292	Apium graveolens	AA76374.2	V16776	Spinacia oleracea
AA847571.1	U87848	Nicotiana plumbaginifolia	BAA11852.1	D83224	Populus nigra
AAA53075.1	X75326	Zea mays	BAA41811.1	L36157	Medicago sativa





AAK09326.1	AF320613	<i>zea mays</i>	BAK76387.1	D67038	<i>Pyrus pyrifolia</i>
			CAK67216.1	X98627	<i>Malus x domestica</i>
			CAK68538.1	Y00478	<i>Lycopersicon esculentum</i>
			CAK33644.1	X98357	<i>Pisum sativum</i>
			CAK71140.1	X10034	<i>Rumex palustris</i>
			CAK99793.1	X54566	<i>Nicotiana glauca</i>
			CAK0576.1	X87097	<i>Pyrus communis</i>
			AAK71421.1	L29405	<i>Helianthus annuus</i>
			CAK48922.1	U06047	<i>Vigna radiata</i>
			CAK67119.1	X98493	<i>Nicotiana tabacum</i>
			CAK58232.1	X83229	<i>Nicotiana tabacum</i>
			SEQ ID NO. 2381		
			AAK96390.1	AF287143	<i>Brassica napus</i>
			BAK93039.1	AB033758	<i>Citrus unshiu</i>
			BAK89009.1	AB027455	<i>Petunia x hybrida</i>
			BAK61647.1	AF190634	<i>Nicotiana tabacum</i>
			BAK36421.1	AB013596	<i>Petilla frutescens</i>
			BAK36423.1	AB013598	<i>Veterna x hybrida</i>
			AAK59034.1	L34847	<i>Zea mays</i>
			BAK36422.1	AB013597	<i>Petilla frutescens</i>
			AAK17077.1	AF199453	<i>Sorghum bicolor</i>
			BAK6652.1	U32643	<i>Nicotiana tabacum</i>
			AAK23304.1	AF346432	<i>Nicotiana tabacum</i>
			BAK6653.1	U32644	<i>Nicotiana tabacum</i>
			BAK12737.1	D85186	<i>Gentiana triflora</i>
			AAK23303.1	AF346431	<i>Nicotiana tabacum</i>
			BAK3484.1	AB031274	<i>Scutellaria baicalensis</i>
			BAK19659.1	AB002818	<i>Petilla frutescens</i>
			AAK21086.1	AF127218	<i>Forsythia x intermedia</i>
			CAK9450.1	X81538	<i>Lycopersicon esculentum</i>
			CAK58231.1	Y19871	<i>Dortheanthus bellidifolius</i>
			CAK84844.1	U08267	<i>Solanum tuberosum</i>
			BAK41020.1	AB047093	<i>Vitis vinifera</i>
			BAK41026.1	AB047099	<i>Vitis vinifera</i>
			BAK41024.1	AB047097	<i>Vitis vinifera</i>
			BAK41022.1	AB047095	<i>Vitis vinifera</i>
			BAK41017.1	AB047090	<i>Vitis labrusca x Vitis vinifera</i>
			BAK41019.1	AB047092	<i>Vitis vinifera</i>
			BAK41021.1	AB047094	<i>Vitis vinifera</i>
			BAK41023.1	AB047096	<i>Vitis vinifera</i>
			SEQ ID NO. 2379		
			AAK57285.1	X81629	<i>Brassica oleracea</i>
			AAK32981.1	L27664	<i>Brassica napus</i>
			AAK5248.1	X81628	<i>Brassica oleracea</i>
			AAK57472.1	AF252628	<i>Brassica juncea</i>
			AAK98808.1	U68215	<i>Carica papaya</i>
			AAK33697.1	L21978	<i>Petunia x hybrida</i>
			BAK64528.1	AF254125	<i>Carica papaya</i>
			AAK70883.1	U19856	<i>Perargonium x hortorum</i>
			BAK21541.1	AB003514	<i>Actinidia deliciosa</i>
			AAK48977.1	U07953	<i>Perargonium x hortorum</i>
			CAK71738.1	U10749	<i>Betula pendula</i>
			AAK37381.1	L21976	<i>Petunia x hybrida</i>
			CAK36468.1	L24639	<i>Nicotiana tabacum</i>
			AAK94601.1	AB033504	<i>Populus euramericana</i>
			AAK34924.1	AB013101	<i>Lycopersicon esculentum</i>
			AAK33466.1	AB012857	<i>Nicotiana tabacum</i>
			AAK36484.1	AF129074	<i>Prunus persica</i>
			AAK670884.1	U67861	<i>Perargonium x hortorum</i>
			CAK647799.1	X95553	<i>Cucumis melo</i>
			CAK90904.1	L254199	<i>Lycopersicon esculentum</i>
			CAK41212.1	X58273	<i>Lycopersicon esculentum</i>
			CAK33698.1	L21979	<i>Petunia x hybrida</i>
			CAK04895.1	AB001646	<i>Malus x domestica</i>
			CAK2616.1	L29529	<i>Nicotiana tabacum</i>
			CAK54449.1	X7732	<i>Prunus persica</i>
			AAK36483.1	AF129073	<i>Cucumis sativus</i>
			AAK67233.1	AF033582	<i>Prunus americana</i>
			AAK33524.1	AF026793	<i>Prunus mume</i>
			AAK90550.1	AB031027	<i>Prunus mume</i>
			AAK474328.1	Y14005	<i>Malus x domestica</i>
			AAK36461.1	AF030859	<i>Malus x domestica</i>
			AAK99792.1	U54565	<i>Nicotiana glauca</i>

BAR41025.1	AB047098	Vitis vinifera	BAA05623.1	D26574	Daucus carota
BAR89008.1	AB027454	Petunia x hybrida	AA037697.1	AF145728	Oryza sativa
BAR81683.1	AF000372	Vitis vinifera	AA01764.2	AF184277	Glycine max
BAR81682.1	AF000371	Vitis vinifera	DA021017.1	D26578	Daucus carota
BAR41018.1	AB047091	Vitis labrusca x Vitis vinifera	AA073482.1	AF268422	Brassica rapa subsp. pekin
CAA31855.1	XL3500	Zea mays	BAA93460.1	AB028072	Physcomitrella patens
SEQ ID NO. 2385					
AAR31704.1	S72356	Chloroplast Nicotiana	SEQ ID NO. 2387		
AY000372	S72358	Chloroplast Nicotiana	BA07745.1	AB037887	Lupinus albus
BAR07667.1	D42070	Nicotiana sylvestris	BA082130.1	AB023385	Lupinus albus
BAR75881.1	AU066497	Chlamydomonas sp. HS-5	CA006921.1	AJ006224	Ipomoea batatas
SEQ ID NO. 2386					
AA037696.1	AF145727	Oryza sativa	BA093265.1	AB039746	Spirodelia punctata
BA093463.1	AB028075	Physcomitrella patens	CA004644.1	AJ001270	Phaseolus vulgaris
CA063222.1	X92489	Glycine max	AA019820.1	AF200824	Glycine max
CA064221.1	X94449	Pimpinella brachycarpa	AA019821.1	AF200825	Ipomoea batatas
AAK31270.1	AC079890	Oryza sativa	AA020634.1	AF200825	Anchusa officinalis
AA019980.1	AF211193	Oryza sativa	CA007280.1	AJ006870	Ipomoea batatas
CA065456.2	X96681	Oryza sativa	BA097038.1	AB029086	Tagetes patula
CA064152.1	X94375	Pimpinella brachycarpa	BA082131.1	AB023388	Lycopersicon esculentum
CA064491.1	X95193	Pimpinella brachycarpa	BA082132.1	AB023386	Glycine max
CA077695.1	AF145726	Oryza sativa	SEQ ID NO. 2389		
CA077700.1	AF145731	Oryza sativa	BA07395.1	D38220	Brassica napus
CA067128.1	AJ005933	Craterostigma plantagineum	BA07394.1	D38219	Brassica napus
CA067171.1	AJ005820	Craterostigma plantagineum	CA030576.1	AF314093	Nicotiana tabacum
BA05622.1	D26573	Daucus carota	CA032217.1	XL14059	Nicotiana tabacum
BA053462.1	AB028074	Physcomitrella patens	CA032218.1	XL14060	Lycopersicon esculentum
BA07698.1	AF145729	Oryza sativa	CA032219.1	XL1563	Petunia x hybrida
BA05624.1	D26575	Daucus carota	CA032216.1	XL14058	Nicotiana tabacum
BA093468.1	AB028080	Daucus carota	CA05696.1	X80670	Lotus japonicus
BA05625.1	D26576	Daucus carota	CA052786.1	U95517	Solanum tuberosum
BA093466.1	AB028078	Physcomitrella patens	AA019885.1	U76701	Solanum tuberosum
BA093464.1	AB028076	Physcomitrella patens	AA095940.1	U10129	Phaseolus vulgaris
BA093467.1	AB028079	Physcomitrella patens	AA034033.1	X32600	Spinacia oleracea
BA093461.1	AB028073	Physcomitrella patens	BA013047.1	X54097	Betula pendula
AA01765.1	AF184278	Glycine max	AA033114.1	D86226	Spinacia oleracea
			AA019790.1	M33154	Cucurbita maxima
			CAA58909.1	AF055369	Glycine max
				X84103	Cichorium intybus

AAA96813.1	UL3987	Glycine max	AAG13663.1	AF263457	Oryza sativa
CMA37672.1	X53603	Phaseolus vulgaris	AA98090.1	AF067400	Zea mays
AAA96727.1	L23854	Glycine max	BA90816.1	AF001168	Oryza sativa
AA62316.1	U20450	Zea mays	AAC98091.1	AF067401	Oryza sativa
AA38068.1	AF153448	Zea mays	SEQ ID NO. 2398		
CMA40375.1	X57844	Hordeum vulgare	AA026295		Oryza sativa
AA40376.1	X57845	Hordeum vulgare	BA081662.1	U82432	Dianthus caryophyllus
CMA42739.1	X60173	Hordeum vulgare	AA339995.1	AF184273	Daucus carota
AA93560.1	AF022780	Glycine max	AA056580.1	AF184274	Daucus carota
AA17799.1	AF203033	Chlamydomonas reinhardtii	AA056581.1	X71360	Malus sp.
AA43497.1	X44136	Volvox carterii	CA050498.1	AF117269	Malus x domestica
AA49460.1	U39931	Chlorella vulgaris	AA026205.1	AF026058	Natholia incana
AA49459.1	U39930	Chlorella vulgaris	BA02287.1	AF003779	Perilla frutescens
AA2497.1	X06134	Nicotiana tabacum	BA020143.1	AF015885	Callistephus chinensis
AA18377.1	U08029	Spinacia oleracea	AA066560.1	AF044091	Torenia fournieri
AA339553.1	U64308	Agrostemma githago	BA021477.1	X75966	Vitis vinifera
AA03202.1	M27821	Zea mays	CA053580.1	AF023786	Ipomoea batatas
AA333483.1	M77792	Zea mays	BA075305.1	AF028602	Ipomoea purpurea
AA339555.1	U64310	Agrostemma githago	BA084049.1	AF0283787	Ipomoea batatas
AA339554.1	U64309	Agrostemma githago	BA075306.1	Y12489	Forsythia x intermedia
CA033819.1	X15820	Oryza sativa	CA073094.1	Y07955	Oryza sativa
CA033817.1	X15819	Oryza sativa	CAA69252.1		
AA333998.1	L23953	Glycine max	SEQ ID NO. 2399		
CA058908.1	X84102	Cichorium intybus	CA012822.1	AJ299252	Nicotiana tabacum
CA040090.1	X56771	Chlorella vulgaris	AA063205.1	AF245119	Mesembryanthemum crystallinum
CA045776.1	X64446	Zea mays	AAC24587.1	AF071893	Prunus armeniaca
AA017694.1	AF077372	Zea mays	BA016083.1	AB036883	Oryza sativa
AA96242.1	L40147	Avena strigosa	BA03248.1	AB037183	Oryza sativa
AA920155.1	S61885	Nicotiana plumbaginifolia	AA076898.1	AF274033	Atriplex hortensis
AA96245.1	L40151	Hordeum pusillum	CA056900.1	AF251250	Catharanthus roseus
AA96247.1	L40153	Hordeum stenotachys	CA056901.1	AJ251249	Catharanthus roseus
SEQ ID NO. 2390			BA007329.1	D38123	Nicotiana tabacum
AA036671.1	AF239818	Zea mays	AA043545.1	AF211527	Nicotiana tabacum
AA036670.1	AF239817	Zea mays	BA099376.1	AF002526	Oryza sativa
AA036669.1	AF239816	Zea mays	BA073899.1	AF193803	Oryza sativa
SEQ ID NO. 2395			BA078738.1	AB023482	Oryza sativa
AA049600.1	U30304	Solanum brevidents	AA062619.1	AF057373	Nicotiana tabacum
SEQ ID NO. 2397			AA043549.1	AF211531	Nicotiana tabacum
AA049601.1	U30304		AA043548.1	AF211530	Nicotiana tabacum
SEQ ID NO. 2397			AA032659.1	AF253971	Picea abies



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BAA74465.1	AB022732	Glycyrrhiza echinata	AAB65161.1	AF002666	Solanum commersonii
CNA70576.1	U9424	Nepeta racemosa	CBA97352.1	AJ249144	Hordeum vulgare
AAC49188.2	U29333	Pisum sativum	CNA67969.1	X9655	Betula pendula
AAQ92078.1	AF175278	Pisum sativum	CNA67967.1	X9653	Betula pendula
BAA84071.1	AB028151	Antirrhinum majus	AAQ99136.1	AF150932	Physcomitrella patens
CNA89260.1	Z49263	Pisum sativum	AAQ99135.1	AF150931	Physcomitrella patens
BAA22422.1	AB001379	Glycyrrhiza echinata	AAQ93170.1	U78948	Malus x domestica
RAF34536.1	AF195817	Beta vulgaris	RAA25246.1	D89671	Cerastopteris richardii
RAF34531.1	AF195810	Trifolium pratense	RAA13261.1	AF196175	Dendrobium gress Madame Tho:
RAA38929.1	AF135464	Glycine max	CAG37031.1	AJ291298	Pisum sativum
RAF34525.1	AF195804	Lens culinaris	RAA35027.1	AJ279089	Pisum sativum
RAF35634.1	AF025016	Locus japonicus	RAA35027.1	AF068726	Nicotiana glauca
RAF34530.1	AF195809	Vigna radiata	RAA35027.1	AF068726	Nicotiana glauca
RAA40472.1	AB028152	Torenia hybrida	RAA35027.1	AF068726	Nicotiana glauca
RAA49459.1	AF022462	Glycine max	RAA35027.1	AF068726	Nicotiana glauca
RAF34529.1	AF195808	Vigna radiata	RAA35027.1	AF068726	Nicotiana glauca
RAF34529.1	AF195819	Glycine max	RAA35027.1	AF068726	Nicotiana glauca
RAF34529.1	AF195811	Trifolium pratense	RAA35027.1	AF068726	Nicotiana glauca
RAF34529.1	AF195811	Glycine max	RAA35027.1	AF068726	Nicotiana glauca
RAF34529.1	AF195818	Glycine max	RAA35027.1	AF068726	Nicotiana glauca
RAF34529.1	AF195807	Vigna radiata	RAA35027.1	AF068726	Nicotiana glauca
RAF34529.1	AF195806	Vigna radiata	RAA35027.1	AF068726	Nicotiana glauca
RAF34527.1	AF195806	Vigna radiata	RAA35027.1	AF068726	Nicotiana glauca
SEQ ID NO. 2404			SEQ ID NO. 2405		
AAQ9919.1	AF112149	Zea mays	AAQ34803.1	AF243368	Glycine max
AAQ3377.1	U91964	Medicago sativa	AAQ34803.1	AF243368	Euphorbia esula
AAQ34342.1	AB041020	Oryza sativa	AAQ34798.1	AF243363	Glycine max
RAF66997.2	AF139664	Oryza sativa	AAQ34801.1	AF243366	Glycine max
CBA97354.1	AJ249146	Hordeum vulgare	AAQ34797.1	AF243362	Glycine max
RAA10625.1	AF035378	Lolium temulentum	AAQ34796.1	AF243361	Glycine max
AAQ34200.1	AF112150	Zea mays	AAQ34807.1	AF243372	Glycine max
RAA33457.1	AB007504	Triticum aestivum	AAQ34804.1	AF243369	Glycine max
AAQ00861.1	L6400	Zea mays	AAQ34810.1	AF243375	Glycine max
AAQ10626.1	AF035379	Lolium temulentum	AAQ34809.1	AF243374	Glycine max
AAQ19047.1	AF035379	Oryza sativa	AAQ34805.1	AF243370	Glycine max
RAA18883.1	AB003325	Oryza sativa	AAQ18566.1	AF048978	Glycine max
AAQ19721.1	AF176782	Pentaria x hybrida	AAQ34808.1	AF243373	Glycine max
RAF19048.1	AF058698	Oryza sativa	AAQ34800.1	AF243365	Glycine max
RAA39035.1	AF068724	Nicotiana tabacum	AAQ34829.1	AF243686	Zea mays
CAA04321.1	AJ000759	Malus x domestica	AAQ34802.1	AF243367	Glycine max
AAQ4972.1	AF091458	Oryza sativa	AAQ34837.1	AF244694	Zea mays
CBA56800.1	AJ011675	Oryza sativa	CAA09187.1	AJ010448	Alopecurus myosuroides
			CAA09188.1	AJ010449	Alopecurus myosuroides







AAAF66734.1	AF146709	Petunia axillaris	AAAF66733.1	AF146708	Petunia axillaris	AAAF4017.1	U30475	Glycine max
SEQ ID NO. 2421						SEQ ID NO. 2422		
AAAF01764.2	AF184277	Glycine max	AAAF01763.1	AF184278	Glycine max	AAAF17330.1	AF117339	Nicotiana tabacum
BAB18171.1	AD02769	Zinnia elegans	BAB18170.1	D26578	Daucus carota	BAK309335.1	AF012165	Capsicum annuum
BAA21017.1	D26578	Oryza sativa	BAA21016.1	AF145728	Oryza sativa	BAK31322.1	AF332134	Nicotiana tabacum
AAAF37697.1	D26576	Daucus carota	AAAF37696.1	D26576	Daucus carota	BAK06853.1	AF006095	Cleome spinosa
AAAF01765.1	AF184278	Glycine max	AAAF01764.2	AF184278	Glycine max	BAA57906.1	AB001684	Chlorella vulgaris
BAA05623.1	D26574	Daucus carota	BAA05622.1	D26574	Daucus carota	SEQ ID NO. 2423		
BAA03465.1	AB028077	Physcomitrella patens	BAA03464.1	AB028077	Physcomitrella patens	CAAS57739.1	X79138	Nicotiana tabacum
CAAF6417.1	X94947	Lycopersicon esculentum	CAAF6416.1	X94947	Lycopersicon esculentum	CAAS57742.1	X79141	Nicotiana tabacum
BAA03461.1	AB028073	Physcomitrella patens	BAA03460.1	AB028073	Physcomitrella patens	CAAS55641.1	X79008	Nicotiana tabacum
BAA03464.1	AB028076	Physcomitrella patens	BAA03463.1	AB028076	Physcomitrella patens	CAAS55642.1	X79009	Nicotiana tabacum
BAA03466.1	AB028078	Physcomitrella patens	BAA03465.1	AB028078	Physcomitrella patens	CAAS55737.1	X79136	Nicotiana tabacum
BAA05624.1	D26575	Daucus carota	BAA05623.1	D26575	Daucus carota	CAAS55741.1	X79140	Nicotiana tabacum
BAA05622.1	D26573	Daucus carota	BAA05621.1	D26573	Daucus carota	SEQ ID NO. 2431		
BAA03467.1	AB028079	Physcomitrella patens	BAA03466.1	AB028079	Physcomitrella patens	SEQ ID NO. 2432		
AAAF37698.1	AF145729	Oryza sativa	AAAF37697.1	AF145729	Oryza sativa	AAAF18669.1	U11716	Fisum sativum
BAA03460.1	AB028072	Physcomitrella patens	BAA03461.1	AB028072	Physcomitrella patens	AAAF38662.1	M18250	Fisum sativum
BAB18164.1	AB042762	Zinnia elegans	BAB18163.1	AB042762	Zinnia elegans	AAAD25355.1	AF115574	Fisum sativum
BAA03468.1	AB028080	Physcomitrella patens	BAA03467.1	AB028080	Physcomitrella patens	SEQ ID NO. 2442		
AAAF37699.1	AF145730	Oryza sativa	AAAF37698.1	AF145730	Oryza sativa	AAAF33475.1	AF082531	Pimpinella brachycarpa
AAAF38144.1	AF139497	Prunus armeniaca	AAAF38143.1	AF139497	Prunus armeniaca	AAAF19968.1	AF207699	Elaeis guineensis
AAAF63768.2	AF339748	Helianthus annuus	AAAF63767.1	AF339748	Helianthus annuus	AAAF35239	Petunia x hybrida	Petunia x hybrida
CAAF62608.1	X91212	Lycopersicon esculentum	CAAF62607.1	X91212	Lycopersicon esculentum	AAAF12251.1	AF335238	Petunia x hybrida
BAA03463.1	AB028075	Physcomitrella patens	BAA03462.1	AB028075	Physcomitrella patens	CAAS3782.1	X76188	Nicotiana tabacum
CAAF06717.1	AJ005820	Croton tiglium	CAAF06716.1	AJ005820	Croton tiglium	BAAF1886.1	AB003328	Oryza sativa
BAB18170.1	AB042768	Zinnia elegans	BAB18169.1	AB042768	Zinnia elegans	AAAF38369.1	AF141965	Oryza sativa
CAAF64221.1	X94449	Pimpinella brachycarpa	CAAF64220.1	X94449	Pimpinella brachycarpa	AAAF1257.1	AF335244	Petunia x hybrida
CAAF64191.1	X95193	Pimpinella brachycarpa	CAAF64190.1	X95193	Pimpinella brachycarpa	AAAF1266.1	U25896	Sinapis alba
CAAF64152.1	X94373	Pimpinella brachycarpa	CAAF64151.1	X94373	Pimpinella brachycarpa	AAAF43199.1	AF112148	Petunia x hybrida
AAAF37695.1	AF145726	Oryza sativa	AAAF37694.1	AF145726	Oryza sativa	AAAF1233.1	AF335240	Petunia x hybrida
AAAF37700.1	AF145731	Oryza sativa	AAAF37699.1	AF145731	Oryza sativa	AAAF43199.1	AF112148	Petunia x hybrida
CAAF06728.1	AJ005833	Croton tiglium	CAAF06727.1	AJ005833	Croton tiglium	AAAF12354.1	U49734	Petunia x hybrida
CAAF65456.2	X96681	Oryza sativa	CAAF65455.1	X96681	Oryza sativa	BAAF50187.1	U49734	Sorghum bicolor
AAAF1270.1	AF079890	Oryza sativa	AAAF1269.1	AF079890	Oryza sativa	BAAF5630.1	AB022665	Gnetum parvifolium
AAAF19980.1	AF211193	Oryza sativa	AAAF19979.1	AF211193	Oryza sativa	AAAF04322.1	AJ000760	Malus x domestica
AAAF37696.1	AF145727	Oryza sativa	AAAF37695.1	AF145727	Oryza sativa	BAAF58907.1	U76726	Pinus radiata
CAAF63222.1	X92489	Glycine max	CAAF63221.1	X92489	Glycine max	AAAF22138.1	AF129875	Capsicum ann





[illegible]

[illegible]

SEQ ID NO. 2487	Selaginella lepidophylla	SEQ ID NO. 2495	Lycopersicon esculentum
AAD00829.1	U96736	BAF25197.1	Oryza sativa
SEQ ID NO. 2489		AAD43972.1	
AAA86365.1	U21743		
CAC34417.1	AJ311624		
BAB17848.1	AB015593		
AAO4836.1	AF032975		
BAF74702.1	AB010876		
CAO5682.1	AF051156		
CAE77393.1	AJ276491		
CAE75907.1	Y15962		
BAO08286.1	D45425		
AAK28807.1	AF310960		
AAO36666.1	AF310017		
AAO36667.1	AF310018		
AAO36665.1	AF310016		
CAE11031.1	AJ222979		
AAO4835.1	AF032974		
BAE39965.1	AF003018		
BAE39980.1	AF003020		
CAE55394.1	AL117264		
BAE68880.1	AB028454		
AAO3335.1	AF132671		
CAO99473.1	AF039201		
AAO51146.1	AF049065		
CAE25777.1	AF072694		
AAE20245.1	U01963		
BAE78563.1	AB024338		
AAE34268.1	U21962		
AAE34270.1	M63223		
AAE35030.1	H93041		
CAE71052.1	Y09917		
CAE65371.1	AJ250834		
CAE65370.1	AJ250833		
AAE34271.1	M63224		
CAE65369.1	AJ250832		
CAE78470.1	AF067731		
CAO48432.1	AF032971		
CAE71050.1	Y09915		
AAO48433.1	AF032972		
SEQ ID NO. 2501		SEQ ID NO. 2503	
AAO6362.1	U82815	CAE82852.1	Mesembryanthemum crystallinum
AAE68624.1	AF254072	BAB18104.1	Chilamydomonas reinhardtii
AAE61674.1	AF026917	BAB18105.1	Chilamydomonas reinhardtii
AAE68625.1	AF254073	BAE83689.1	Oryza sativa
		BAE83688.1	Oryza sativa
		AAE2219.1	Zea mays
		CAE73067.1	Sorghum bicolor
		BAE96628.1	Oryza sativa
		CAE89202.1	Chilamydomonas eugametos
		BAE73068.1	Sorghum bicolor
		BAE34675.1	Triticum aestivum
		AAE6970.1	Kalanchoe fedtschenkoi
		CAE9969.1	Kalanchoe fedtschenkoi
		BAE90814.1	Daucus carota
		AAE62693.1	Oryza sativa
		CAE71142.1	Oryza sativa
		BAE05649.1	Cucumis sativus
		AAE25403.1	Nicotiana tabacum
		AAE19403.1	Nicotiana tabacum
		AAE21062.1	Dunaliella tertiolecta
		AAE19402.1	Lycopersicon esculentum



AAB08791.1	U40042	Hordeum vulgare	BAA36421.1	AB044084	Triticum aestivum
CRA44861.1	X63176	Zea mays	CBA0189.1	AJ133638	Avena sativa
AAA33518.1	M60171	Zea mays	CRA6757.1	X9134	Lycopersicon esculentum
AAB94298.1	AF030548	Oryza sativa	CRA78387.1	Z13997	Petunia x hybrida
BAA92148.1	AB038515	Chlorella ellipsoidea	CRA66952.1	X98308	Lycopersicon esculentum
AAB36609.1	U37794	Eucalyptus globulus subsp. bicostata	CRA78388.1	Z13998	Petunia x hybrida
CRA48928.1	X69184	Aemia phyllitidis	CRA72218.1	Y11415	Oryza sativa
AAJ11425.1	AF037662	Mesembryanthemum crystallinum	PAR81736.1	AB029165	Glycine max
CMB76017.1	AJ276012	Hordeum vulgare	PAR81733.2	AB029162	Glycine max
CRA82158.1	D63137	Zea mays	PAR8224.1	AB028652	Nicotiana tabacum
PAR82038.1	X34845	Zinnia elegans	PAR8234.1	D98621	Oryza sativa
CRA38614.1	X34845	Pisum sativum	CRA50223.1	X70678	Hordeum vulgare
AAB64308.1	U63927	Daucus carota	PAR88222.1	AB028650	Nicotiana tabacum
AAH20186.1	LI0633	Zea mays	CRA50226.1	X70881	Hordeum vulgare
SEQ ID NO. 2511			CRA72217.1	Y11414	Oryza sativa
AAAC32114.1	AF051209	Picea mariana	PAR88221.1	AB028649	Nicotiana tabacum
SEQ ID NO. 2514			AB41101.1	U72762	Nicotiana tabacum
PAR84780.1	AB018444	Oryza sativa	PAR88223.1	AB028651	Nicotiana tabacum
PAR84779.1	AB018443	Oryza sativa	BAR80790.1	AB058642	Lilium hybrid division I
SEQ ID NO. 2515			ANG28526.1	AF198499	Nicotiana tabacum
PAR85438.1	AF000616	Oryza sativa	ANG28525.1	AF198498	Nicotiana tabacum
ANG43550.1	AF211532	Nicotiana tabacum	CRA72187.1	Y11352	Oryza sativa
PAR90357.1	AF001080	Oryza sativa	CRA78386.1	Z13996	Petunia x hybrida
SEQ ID NO. 2516			PAR81730.1	AB029159	Glycine max
PAR7053.1	AF190304	Adiantum raddianum	PAR81731.1	AB029160	Glycine max
PAR7052.1	AF190303	Adiantum raddianum	SEQ ID NO. 2518		
PAR7051.1	AF190302	Secale cereale	CRA62476.1	X90990	Solanum tuberosum
PAR7050.1	AF190301	Secale cereale	PAR66637.1	AF143505	Lycopersicon esculentum
AA08959.1	AF122051	Solanum tuberosum	CRA66616.1	X97980	Solanum berthaultii
AA08960.1	AF122052	Solanum tuberosum	PAR96593.1	AB002481	Oryza sativa
AA08961.1	AF122053	Solanum tuberosum	AA050304.1	X92989	Pisum sativum
AA08962.1	AF122054	Solanum tuberosum	CRA82993.1	Z30332	Spinacia oleracea
AA08963.1	AF122055	Solanum tuberosum	CRA82994.1	Z30333	Mesembryanthemum crystallinum
AA08964.1	AF122056	Solanum tuberosum	CRA82992.1	Z30331	Mesembryanthemum crystallinum
AA08965.1	AF122057	Solanum tuberosum	CRA82852.1	Z30329	Mesembryanthemum crystallinum
AA08966.1	AF122058	Solanum tuberosum	CRA82851.1	X71057	Spinacia oleracea
AA08967.1	AF122059	Solanum tuberosum	CRA82850.1	Z30330	Spinacia oleracea
AA08968.1	AF122060	Solanum tuberosum	CRA82849.1	AB050585.1	Salvia columbariae
AA08969.1	AF122061	Solanum tuberosum	CRA82848.1	AB050584.1	Salvia columbariae
AA08970.1	AF122062	Solanum tuberosum	CRA82847.1	AB050583.1	Salvia columbariae
AA08971.1	AF122063	Solanum tuberosum	CRA82846.1	AB050582.1	Salvia columbariae
AA08972.1	AF122064	Solanum tuberosum	CRA82845.1	AB050581.1	Salvia columbariae
AA08973.1	AF122065	Solanum tuberosum	CRA82844.1	AB050580.1	Salvia columbariae
AA08974.1	AF122066	Solanum tuberosum	CRA82843.1	AB050579.1	Salvia columbariae
AA08975.1	AF122067	Solanum tuberosum	CRA82842.1	AB050578.1	Salvia columbariae
AA08976.1	AF122068	Solanum tuberosum	CRA82841.1	AB050577.1	Salvia columbariae
AA08977.1	AF122069	Solanum tuberosum	CRA82840.1	AB050576.1	Salvia columbariae
AA08978.1	AF122070	Solanum tuberosum	CRA82839.1	AB050575.1	Salvia columbariae
AA08979.1	AF122071	Solanum tuberosum	CRA82838.1	AB050574.1	Salvia columbariae
AA08980.1	AF122072	Solanum tuberosum	CRA82837.1	AB050573.1	Salvia columbariae
AA08981.1	AF122073	Solanum tuberosum	CRA82836.1	AB050572.1	Salvia columbariae
AA08982.1	AF122074	Solanum tuberosum	CRA82835.1	AB050571.1	Salvia columbariae
AA08983.1	AF122075	Solanum tuberosum	CRA82834.1	AB050570.1	Salvia columbariae
AA08984.1	AF122076	Solanum tuberosum	CRA82833.1	AB050569.1	Salvia columbariae
AA08985.1	AF122077	Solanum tuberosum	CRA82832.1	AB050568.1	Salvia columbariae
AA08986.1	AF122078	Solanum tuberosum	CRA82831.1	AB050567.1	Salvia columbariae
AA08987.1	AF122079	Solanum tuberosum	CRA82830.1	AB050566.1	Salvia columbariae
AA08988.1	AF122080	Solanum tuberosum	CRA82829.1	AB050565.1	Salvia columbariae
AA08989.1	AF122081	Solanum tuberosum	CRA82828.1	AB050564.1	Salvia columbariae
AA08990.1	AF122082	Solanum tuberosum	CRA82827.1	AB050563.1	Salvia columbariae
AA08991.1	AF122083	Solanum tuberosum	CRA82826.1	AB050562.1	Salvia columbariae
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AA08993.1	AF122085	Solanum tuberosum	CRA82824.1	AB050560.1	Salvia columbariae
AA08994.1	AF122086	Solanum tuberosum	CRA82823.1	AB050559.1	Salvia columbariae
AA08995.1	AF122087	Solanum tuberosum	CRA82822.1	AB050558.1	Salvia columbariae
AA08996.1	AF122088	Solanum tuberosum	CRA82821.1	AB050557.1	Salvia columbariae
AA08997.1	AF122089	Solanum tuberosum	CRA82820.1	AB050556.1	Salvia columbariae
AA08998.1	AF122090	Solanum tuberosum	CRA82819.1	AB050555.1	Salvia columbariae
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AA09002.1	AF122094	Solanum tuberosum	CRA82815.1	AB050551.1	Salvia columbariae
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AA09004.1	AF122096	Solanum tuberosum	CRA82813.1	AB050549.1	Salvia columbariae
AA09005.1	AF122097	Solanum tuberosum	CRA82812.1	AB050548.1	Salvia columbariae
AA09006.1	AF122098	Solanum tuberosum	CRA82811.1	AB050547.1	Salvia columbariae
AA09007.1	AF122099	Solanum tuberosum	CRA82810.1	AB050546.1	Salvia columbariae
AA09008.1	AF122100	Solanum tuberosum	CRA82809.1	AB050545.1	Salvia columbariae
AA09009.1	AF122101	Solanum tuberosum	CRA82808.1	AB050544.1	Salvia columbariae
AA09010.1	AF122102	Solanum tuberosum	CRA82807.1	AB050543.1	Salvia columbariae
AA09011.1	AF122103	Solanum tuberosum	CRA82806.1	AB050542.1	Salvia columbariae
AA09012.1	AF122104	Solanum tuberosum	CRA82805.1	AB050541.1	Salvia columbariae
AA09013.1	AF122105	Solanum tuberosum	CRA82804.1	AB050540.1	Salvia columbariae
AA09014.1	AF122106	Solanum tuberosum	CRA82803.1	AB050539.1	Salvia columbariae
AA09015.1	AF122107	Solanum tuberosum	CRA82802.1	AB050538.1	Salvia columbariae
AA09016.1	AF122108	Solanum tuberosum	CRA82801.1	AB050537.1	Salvia columbariae
AA09017.1	AF122109	Solanum tuberosum	CRA82800.1	AB050536.1	Salvia columbariae
AA09018.1	AF122110	Solanum tuberosum	CRA82799.1	AB050535.1	Salvia columbariae
AA09019.1	AF122111	Solanum tuberosum	CRA82798.1	AB050534.1	Salvia columbariae
AA09020.1	AF122112	Solanum tuberosum	CRA82797.1	AB050533.1	Salvia columbariae
AA09021.1	AF122113	Solanum tuberosum	CRA82796.1	AB050532.1	Salvia columbariae
AA09022.1	AF122114	Solanum tuberosum	CRA82795.1	AB050531.1	Salvia columbariae
AA09023.1	AF122115	Solanum tuberosum	CRA82794.1	AB050530.1	Salvia columbariae
AA09024.1	AF122116	Solanum tuberosum	CRA82793.1	AB050529.1	Salvia columbariae
AA09025.1	AF122117	Solanum tuberosum	CRA82792.1	AB050528.1	Salvia columbariae
AA09026.1	AF122118	Solanum tuberosum	CRA82791.1	AB050527.1	Salvia columbariae
AA09027.1	AF122119	Solanum tuberosum	CRA82790.1	AB050526.1	Salvia columbariae
AA09028.1	AF122120	Solanum tuberosum	CRA82789.1	AB050525.1	Salvia columbariae
AA09029.1	AF122121	Solanum tuberosum	CRA82788.1	AB050524.1	Salvia columbariae
AA09030.1	AF122122	Solanum tuberosum	CRA82787.1	AB050523.1	Salvia columbariae
AA09031.1	AF122123	Solanum tuberosum	CRA82786.1	AB050522.1	Salvia columbariae
AA09032.1	AF122124	Solanum tuberosum	CRA82785.1	AB050521.1	Salvia columbariae
AA09033.1	AF122125	Solanum tuberosum	CRA82784.1	AB050520.1	Salvia columbariae
AA09034.1	AF122126	Solanum tuberosum	CRA82783.1	AB050519.1	Salvia columbariae
AA09035.1	AF122127	Solanum tuberosum	CRA82782.1	AB050518.1	Salvia columbariae
AA09036.1	AF122128	Solanum tuberosum	CRA82781.1	AB050517.1	Salvia columbariae
AA09037.1	AF122129	Solanum tuberosum	CRA82780.1	AB050516.1	Salvia columbariae
AA09038.1	AF122130	Solanum tuberosum	CRA82779.1	AB050515.1	Salvia columbariae
AA09039.1	AF122131	Solanum tuberosum	CRA82778.1	AB050514.1	Salvia columbariae
AA09040.1	AF122132	Solanum tuberosum	CRA82777.1	AB050513.1	Salvia columbariae
AA09041.1	AF122133	Solanum tuberosum	CRA82776.1	AB050512.1	Salvia columbariae
AA09042.1	AF122134	Solanum tuberosum	CRA82775.1	AB050511.1	Salvia columbariae
AA09043.1	AF122135	Solanum tuberosum	CRA82774.1	AB050510.1	Salvia columbariae
AA09044.1	AF122136	Solanum tuberosum	CRA82773.1	AB050509.1	Salvia columbariae
AA09045.1	AF122137	Solanum tuberosum	CRA82772.1	AB050508.1	Salvia columbariae
AA09046.1	AF122138	Solanum tuberosum	CRA82771.1	AB050507.1	Salvia columbariae
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AA09048.1	AF122140	Solanum tuberosum	CRA82769.1	AB050505.1	Salvia columbariae
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AA09055.1	AF122147	Solanum tuberosum	CRA82762.1	AB050498.1	Salvia columbariae
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AA09057.1	AF122149	Solanum tuberosum	CRA82760.1	AB050496.1	Salvia columbariae
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AA09060.1	AF122152	Solanum tuberosum	CRA82757.1	AB050493.1	Salvia columbariae
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AA09066.1	AF122158	Solanum tuberosum	CRA82751.1	AB050487.1	Salvia columbariae
AA09067.1	AF122159	Solanum tuberosum	CRA82750.1	AB050486.1	Salvia columbariae
AA09068.1	AF122160	Solanum tuberosum	CRA82749.1	AB050485.1	Salvia columbariae
AA09069.1	AF122161	Solanum tuberosum	CRA82748.1	AB050484.1	Salvia columbariae
AA09070.1	AF122162	Solanum tuberosum	CRA82747.1	AB050483.1	Salvia columbariae
AA09071.1	AF122163	Solanum tuberosum	CRA82746.1	AB050482.1	Salvia columbariae
AA09072.1	AF122164	Solanum tuberosum	CRA82745.1	AB050481.1	Salvia columbariae
AA09073.1	AF122165	Solanum tuberosum	CRA82744.1	AB050480.1	Salvia columbariae
AA09074.1	AF122166	Solanum tuberosum	CRA82743.1	AB050479.1	Salvia columbariae
AA09075.1	AF122167	Solanum tuberosum	CRA82742.1	AB050478.1	Salvia columbariae
AA09076.1	AF122168	Solanum tuberosum	CRA82741.1	AB050477.1	Salvia columbariae
AA09077.1	AF122169	Solanum tuberosum	CRA82740.1	AB050476.1	Salvia columbariae
AA09078.1	AF122170	Solanum tuberosum	CRA82739.1	AB050475.1	Salvia columbariae
AA09079.1	AF122171	Solanum tuberosum	CRA82738.1	AB050474.1	Salvia columbariae
AA09080.1	AF122172	Solanum tuberosum	CRA82737.1	AB050473.1	Salvia columbariae
AA09081.1	AF122173	Solanum tuberosum	CRA82736.1	AB050472.1	Salvia columbariae
AA09082.1	AF122174	Solanum tuberosum	CRA82735.1	AB050471.1	Salvia columbariae
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AA09087.1	AF122179	Solanum tuberosum	CRA82730.1	AB050466.1	Salvia columbariae
AA09088.1	AF122180	Solanum tuberosum	CRA82729.1	AB050465.1	Salvia columbariae
AA09089.1	AF122181	Solanum tuberosum	CRA82728.1	AB050464.1	Salvia columbariae
AA09090.1	AF12218				





CRA32109.1	X13909	Oryza sativa	SEQ ID NO. 2530	Oryza sativa subsp. japonica
AAA68425.1	M34396	Polystichum munimium	AA39333.1	Gossypium hirsutum
CRA34459.1	X16436	Sinapis alba	AAD39534.2	
CRA33903.1	X15894	Sinapis alba		
CRA38635.1	X54856	Chlamydomonas moewusii		
AAA00536.1	D00641	Oryza sativa	SEQ ID NO. 2531	
AAA80594.1	U21114	Solanum tuberosum	AAG34043.1	Lolium perenne
AAA32346.1	AB013728	Cryptomeria japonica	AAG34044.1	Lolium perenne
AA89205.1	AF279248	Vigna radiata	CMA74331.1	Triticum aestivum
AAD48017.1	AF165529	Rumex palustris	CMA74330.1	Triticum aestivum
CRA33392.1	M12152	Lemna gibba		
AAA00537.1	D00642	Oryza sativa	SEQ ID NO. 2532	
CRA32857.1	X14505	Pinus sylvestris	RA019839.1	Clarkia concinna
AAA34983.1	AF039898	Pinus persica	RA049395.1	Clarkia breweri
AAA34141.1	M17558	Lycopersicon esculentum	RA019840.1	Clarkia breweri
AAA34142.1	M17559	Lycopersicon esculentum	RA019841.1	Oenothera arizonica
CRA3418.1	X12980	Glycine max	AA019838.1	Clarkia breweri
AA89207.1	AF279250	Vigna radiata		
CRA38025.1	X54090	Gossypium hirsutum	SEQ ID NO. 2533	
CRA28639.1	X04966	Petunia x hybrida	BA088183.1	Oryza sativa
CRA40365.1	X57082	Pinum sativum		
AA89206.1	AF279249	Vigna radiata		
AAA19040.1	U51632	Pinus palustris		
CRA89823.1	Z49749	Pseudotsuga menziesii		
SEQ ID NO. 2529				
AAA82766.1	U89510	Hordeum vulgare		
AAA82767.1	U89509	Zea mays		
AAA82768.1	U89511	Allium porrum	SEQ ID NO. 2534	
CAC19810.1	AJ292343	Solanum tuberosum	AAA50763.1	Nicotiana glutinosa
CAB52307.1	AJ245634	Solanum tuberosum	AA043546.1	Nicotiana tabacum
AAA809776.1	L20485	Solanum tuberosum	CA080797.1	Solanum tuberosum
AAA85845.1	AB026545	Hyoscyamus niger	CA080798.1	Solanum tuberosum
AAA33882.1	L20474	Datura stramonium	AAA847618.1	Linum usitatissimum
CRA45866.1	X64566	Cuphea lanceolata	AA009951.1	Glycine max
CAC34420.1	AJ307584	Solanum tuberosum	AA001052.1	Glycine max
BA013547.1	D88156	Hyoscyamus niger	AA025966.1	Linum usitatissimum
AAA85844.1	AB026544	Hyoscyamus niger	AA025969.1	Linum usitatissimum
AAA33281.1	L20473	Datura stramonium	AA025975.1	Linum usitatissimum
AAA33280.1	L20475	Datura stramonium	AA025976.1	Linum usitatissimum
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			AA026205.1	Linum usitatissimum
			AA026206.1	Linum usitatissimum
			AA026207.1	Linum usitatissimum

AAA91022.1	U27081	Linum usitatissimum	CRA10175.1	AJ012798	Lycopersicon esculentum
AAAG09954.1	AF175399	Glycine max	CAAF4377.1	AFU64786	Carapa papaya
AAAD25973.1	AF093646	Linum usitatissimum	CMA54525.1	X77319	Asparagus officinalis
CAC35327.1	AJ310152	Linum usitatissimum	AAAC25984.1	AF020390	Lycopersicon esculentum
AAAD25976.1	AF093649	Linum usitatissimum	CRA10179.1	AJ012796	Lycopersicon esculentum
CAC35305.1	AF175394	Glycine max	AAAF70822.1	AF154421	Lycopersicon esculentum
CAC35336.1	AJ310161	Linum usitatissimum	CAAG07236.1	AJ006771	Cicer arietinum
CAC35332.1	AJ310157	Linum usitatissimum	AAAG12249.1	AF184080	Prunus armeniaca
CAC35328.1	AJ310153	Linum usitatissimum	CAAO10064.1	AJ012578	Carapa papaya
CAC35325.1	AJ310150	Linum usitatissimum	CAC06310.1	AJ005043	Cicer arietinum
AAK28810.1	AF310964	Linum usitatissimum	CAAC28739.1	AF079874	Carapa papaya
CAC35330.1	AJ310155	Linum usitatissimum	AAAD5349.1	AF159124	Vitis vinifera
AAK28812.1	AF310968	Linum usitatissimum	SEQ ID NO. 2537		
CAC35326.1	AJ310151	Linum usitatissimum	AAAD5421.1	AF137379	Chloroplast Nephroselmis
CAC35338.1	AJ310164	Linum usitatissimum	AAAF3860.1	AF166114	Chloroplast Mesostigma viride
CAC35329.1	AJ310162	Linum usitatissimum	AAAL8546.1	HS4204	Nicotiana tabacum
CAC35334.1	AJ310159	Linum usitatissimum	CMA74893.1	Y14561	Pinum sativum
CAC35338.1	AJ310163	Linum usitatissimum	AAK08141.1	AF234537	Pelargonium graveolens
CAC35333.1	AJ310158	Linum usitatissimum	AAAF15312.1	AF145053	Oryza sativa
AAK28806.1	AF310960	Linum usitatissimum	AAAG32661.1	AF264877	Zea mays
AAK28811.1	AF310966	Linum usitatissimum	CMA75382.1	Y15108	Glycine max
AAK28809.1	AF310962	Linum usitatissimum	SEQ ID NO. 2539		
AAK28804.1	AF310958	Linum usitatissimum	BAAG07280.1	D38091	Triticum aestivum
AAK28807.1	AF310959	Linum usitatissimum	BAAG07278.1	D38089	Triticum aestivum
AAK28808.1	AF310961	Linum usitatissimum	CMA64356.1	X94693	Triticum aestivum
AAK28805.1	AF310960	Linum usitatissimum	AAAB66346.1	AF013803	Pinus taeda
SEQ ID NO. 2536			CAAA48030.1	X67819	Picea abies
AAAF67342.1	AF229795	Vigna radiata	RAA34249.1	M31922	Volvox carterii
AAAF67341.1	AF229794	Vigna radiata	RAA34247.1	M31921	Volvox carterii
BAE21492.1	BA046543	Pyrus pyrifolia	RAA98453.1	U16726	Chlamydomonas reinhardtii
CRA101268.1	AJ012687	Cicer arietinum	CMA07234.1	AJ006768	Cicer arietinum
CRA101274.1	AJ012797	Lycopersicon esculentum	AAAS98455.1	U16725	Chlamydomonas reinhardtii
AAAF21626.1	AF023647	Lycopersicon esculentum	AAAS98447.1	U16724	Chlamydomonas reinhardtii
CNA09457.1	AJ011010	Cicer arietinum	AAAF5769.1	AF242311	Euphorbia esula
X94684		Brassica oleracea	AAAB04687.1	U08225	Zea mays
CMA059162.1		Cicer arietinum	AAK37828.1	X53831	Petroselinum crispum
CNA06309.1	AJ005042	Lycopersicon esculentum	BAAS95117.1	AF018242	Solanum melongena
AAAF70821.1	AF154420	Lycopersicon esculentum	BAAG07276.1	D38087	Triticum aestivum
AAAB61470.1	AF004812	Mangifera indica			

BRA07279.1	D38090	Triticum aestivum	RAAF03027.1	AF244924	Spinacia oleracea
BRA07277.1	D38088	Triticum aestivum	RAAF03026.1	AF244923	Spinacia oleracea
AAAG6947.1	U10041	Pisum sativum	BRA94962.1	AB02103	Asparagus officinalis
CRA64423.1	X94973	Triticum aestivum	BRA92500.1	AF001383	Oryza sativa
CBA53509.1	AJ245999	Brassica napus	RAAF03025.1	AF244922	Spinacia oleracea
CAA65069.1	X95763	Allium cepa	CRA62615.1	X91232	Mercurialis annua
AAAF07182.1	AF193345	Oryza sativa	BRA92422.1	AF001366	Oryza sativa
BRA96096.1	AB003781	Lilium longiflorum	BRA92497.1	AF001383	Oryza sativa
BRA96097.1	AB003782	Lilium longiflorum	CBA65334.1	AJ250121	Picea abies
CBA40356.1	AJ010974	Lilium longiflorum	CRA66037.1	X97351	Populus balsamifera subsp.
SEQ ID NO. 2541			trichocarpa		
RAAD3561.1	AF155124	Gossypium hirsutum	RADA3561.1	AF155124	Gossypium hirsutum
RAAD26942.1	AF119050	Datisca glomerata	RAA82306.1	AB027752	Nicotiana tabacum
BRA05079.1	D26086	Petunia x hybrida	BRA06335.1	D30653	Populus kitakamiensis
RAAC06243.1	AF033077	Nicotiana tabacum	CRA62226.1	X90693	Medicago sativa
BRA05077.1	D26084	Petunia x hybrida	CAB94932.1	AJ242742	Ipomoea batatas
RAA05076.1	D26083	Petunia x hybrida	RAAD37430.1	AF149280	Phaseolus vulgaris
AAAB53260.1	U76554	Brassica rapa	CRA62227.1	X90694	Medicago sativa
BRA05078.1	D26085	Petunia x hybrida	BRA07241.1	D38051	Populus kitakamiensis
AAAB53261.1	U76555	Brassica rapa	BRA07389.1	AB024439	Scutellaria baicalensis
AAK01713.1	AF332876	Oryza sativa	BRA14143.1	D90115	Amoracia rusticana
BRA21920.1	AB006598	Petunia x hybrida	BRA06334.1	D30652	Populus kitakamiensis
BRA21922.1	AB006600	Petunia x hybrida	CRA71492.1	Y10466	Spinacia oleracea
BRA19112.1	AB000453	Petunia x hybrida	RAAB02554.1	L37790	Stylosanthes humilis
BRA21927.1	AB006605	Petunia x hybrida	RAAD37427.1	AF149277	Phaseolus vulgaris
BRA96071.1	AB035133	Petunia x hybrida	CRA66034.1	X97348	Populus balsamifera subsp.
BRA96070.1	AB035132	Petunia x hybrida	trichocarpa		
BRA21919.1	AB006597	Petunia x hybrida	AA937734.1	AF014502	Glycine max
BRA19114.1	AB000455	Petunia x hybrida	RAC05277.1	AF049881	Linum usitatissimum
BRA21921.1	AB006599	Petunia x hybrida	RAC49819.1	AF014468	Oryza sativa
BRA21928.1	AB006606	Petunia x hybrida	CRA98519.1	AF007211	Glycine max
BRA21925.1	AB006603	Petunia x hybrida	BRA11853.1	D93225	Populus nigra
BRA19111.1	AB000452	Petunia x hybrida	CRA59487.1	X95230	Triticum aestivum
BRA1926.1	AB000456	Petunia x hybrida	RAA1811.1	L36157	Medicago sativa
BRA21924.1	AB006602	Petunia x hybrida	BRA11852.1	D93224	Populus nigra
BRA21923.1	AB006601	Petunia x hybrida	CRA59485.1	X95228	Triticum aestivum
BRA21926.1	AB006604	Petunia x hybrida	CRA66036.1	X97350	Populus balsamifera subsp.
BRA19110.1	AB000451	Petunia x hybrida	trichocarpa		
BRA19113.1	AB000454	Petunia x hybrida	RAA41810.1	L36156	Medicago sativa

CRA66035.1	X97349	Populus balsamifera subsp.	CNR55395.1	AL117264	Oryza sativa
trichocarpa					
ABA48986.1	U16727	Medicago truncatula	SEQ ID NO. 2550		
CRA62597.1	X91172	Raphanus sativus	BAB41080.1	AR052729	Pisum sativum
AAA47602.1	L07554	Linum usitatissimum	AAA34054.1	M96432	Nicotiana tabacum
CAB99487.1	AJ276227	Hordeum vulgare	AAA34085.1	M93436	Nicotiana tabacum
CRA37713.1	X53675	Triticum aestivum			
RAA03911.1	D16442	Oryza sativa	SEQ ID NO. 2551		
CRA49821.1	A1014470	Oryza sativa	CAA10494.1	AJ131733	Pseudotsuga menziesii
BA114144.1	D90116	Amoracia rusticana	AAA64427.1	L29077	Pisum sativum
RAA34108.1	J02979	Nicotiana tabacum	AAA34125.1	L23762	Lycopersicon esculentum
			BA898617.1	AF034946	Zea mays
			RAA51109.1	AF176040	Mesembryanthemum crystalli
			CAA51821.1	XT3419	Lycopersicon esculentum
			RAA22662.1	AF032468	Zea mays
			CAA05772.1	AJ002959	Oryza sativa
			RAA90392.1	AF001081	Nicotiana tabacum
			BAF40310.1	AS026055	Avicennia marina
			AAAF7016.1	AF262934	Nicotiana tabacum
			BAF40311.1	AB026056	Nicotiana tabacum
			AAA34310.1	M62720	Triticum aestivum
			AAAB02168.1	U15971	Oryza sativa
			AAAD2941.1	AF091621	Catharanthus roseus
			AAA66089.1	U17250	Brassica oleracea
			CAA58111.1	X82938	Lycopersicon esculentum
			AAAB63513.1	AF008910	Prunus armeniaca
			RAA21006.1	D17786	Oryza sativa
			AAAF22280.1	AF165420	Mesembryanthemum crystallinum
			RAA32141.1	AF051240	Picea mariana
			SEQ ID NO. 2552		
			RAA43405.1	AF172931	Picea abies
			BA873230.1	U34743	Phalaenopsis sp. SM9108
			CAA51059.1	Y17898	Zea mays
			RAA39610.1	AF336277	Gossypium hirsutum
			AA038144.1	AF139497	Prunus armeniaca
			AAAB3768.2	AF339748	Helianthus annuus
			CAA64591.1	X95193	Pinipellia brachycarpa
			CAA64421.1	X94449	Pinipellia brachycarpa
			CAA64152.1	X94375	Pinipellia brachycarpa
			RAA93462.1	AB028074	Physcomitrella patens
			SEQ ID NO. 2547		
			AAAI7740.1	U08285	Nicotiana tabacum
			BA930201.1	AF001552	Oryza sativa
			RAA92501.1	AP001383	Oryza sativa
			SEQ ID NO. 2546		
			RAF98368.1	AF158027	Nicotiana tabacum
			RAA22170.1	AF061282	Sorghum bicolor
			AAAD2169.1	AF061282	Sorghum bicolor
			RAF98369.1	AF158253	Nicotiana tabacum
			CAA73328.1	X12793	Cucumis sativus
			AAK18751.1	AF193067	Vigna unguiculata
			RAA22149.1	AF193067	Sorghum bicolor
			AB080428.1	U68484	Nicotiana tabacum
			CAA11041.1	AJ223038	Hevea brasiliensis
			AAAI1042.1	AJ223039	Hevea brasiliensis
			CAA27571.1	X03932	Solanum tuberosum
			CAA25592.1	X01125	Solanum tuberosum
			AAAG6198.1	U09331	Solanum tuberosum
			CAA67588.1	X03956	Solanum tuberosum
			RAA33819.1	M18880	Solanum tuberosum
			CAA31576.1	X13179	Solanum tuberosum
			RAA33928.1	X21879	Solanum tuberosum
			CAA31575.1	X13178	Solanum tuberosum
			CAA81735.1	Z27221	Solanum tuberosum
			AB08427.1	U68483	Nicotiana tabacum
			RAF98370.1	AF158254	Nicotiana tabacum
			AAK19055.1	AF151219	Solanum tuberosum
			SEQ ID NO. 2547		
			AAAI7740.1	U08285	Nicotiana tabacum
			BA930201.1	AF001552	Oryza sativa
			RAA92501.1	AP001383	Oryza sativa

BAA93465.1	AB028077	Physcomitrella patens	CAB9824.1	AJ271439	Prunus persica
BAA93468.1	AB028080	Physcomitrella patens	CMA5406.1	X76536	Solanum tuberosum
CMA64417.1	X94947	Lycopersicon esculentum	CAB60276.1	U09989	Zea mays
CMA63222.1	X92489	Glycine max	CAB98923.1	AJ271438	Prunus persica
BAA93463.1	AB028075	Physcomitrella patens	RAK31799.1	AY029190	Lilium longiflorum
BAB18171.1	AB024769	Zimlia elegans	BAA37150.1	AB022442	Vicia faba
BAA93466.1	AB028078	Physcomitrella patens	CAC29435.1	AJ310523	Vicia faba
BAA93464.1	AB028076	Physcomitrella patens	CAB95495.1	AJ132892	Medicago truncatula
			CAB95494.1	AJ132891	Medicago truncatula
SEQ ID NO. 2553			ADA46187.1	AF156683	Nicotiana plumbaginifolia
ABG28436.1	AF195029	Glycine max	RAA29712.1	AF140499	Oryza sativa
ABG28435.1	AF195028	Glycine max	RAK32118.1	AF308816	Hordeum vulgare
CAB68234.1	X39672	Brassica oleracea	RAK01028.1	AF289025	Cucumis sativus
AD31896.1	AF145478	Mesembryanthemum crystallinum	RAF97591.1	AF263917	Lycopersicon esculentum
RA03010.2	AF001111	Oryza sativa	RAK31348.1	U38965	Vicia faba
RAA11618.1	AF030496	Lycopersicon esculentum	RAA20600.1	U08984	Zea mays
RAA11617.1	AF030495	Lycopersicon esculentum	RAA20601.1	U08985	Zea mays
AAA4138.1	M96324	Lycopersicon esculentum	AKK2119.1	AF308817	Hordeum vulgare
CAB63790.1	X33592	Dunaliella bioculata			
CAF73985.1	AF096871	Zea mays	SEQ ID NO. 2555		
RAA58910.1	U82966	Oryza sativa	AAF01250.1	AF188932	Fragaria x ananassa
AAAD46188.1	AF156691	Nicotiana plumbaginifolia	CMA66900.2	X98244	Zea mays
RAA37186.1	U72148	Lycopersicon esculentum	AAAD4540.1	AF113545	Nicotiana tabacum
CMA47275.1	X66737	Nicotiana plumbaginifolia	CMA10261.1	AJ130956	Capsicum annuum
CMA54045.1	X76535	Solanum tuberosum	CMA66901.1	X98245	Zea mays
RAA46186.1	AF156679	Nicotiana plumbaginifolia	CAC3305.1	U89609	Gossypium hirsutum
CMA59800.1	X65805	Zea mays	RAA37494.1	AF079232	Lycopersicon esculentum
BAA06629.1	D31843	Oryza sativa	RAA67994.1	U73747	Gossypium hirsutum
RAA35314.2	S79323	Vicia faba	CMA75308.1	Y15036	Medicago truncatula
CMA59799.1	X95804	Phaseolus vulgaris	CMA52903.1	X74947	Medicago sativa
RAA41898.1	U94891	Mesembryanthemum crystallinum	RAA37943.1	AF079231	Lycopersicon esculentum
RAA34094.1	M80489	Nicotiana plumbaginifolia	CAB92956.1	AJ401032	Solanum tuberosum
RAA94202.2	AF029256	Kosteletzkya virginica	RAA371830.1	AF006197	Lavatera thuringiaca
RAA34052.1	M27888	Nicotiana plumbaginifolia	RAA75213.1	Y14972	Nicotiana tabacum
RAA34173.1	M60166	Lycopersicon esculentum	CMA76769.1	Y17502	Nicotiana tabacum
RAA34098.1	M80490	Nicotiana plumbaginifolia	CMA63710.1	X93308	Capsicum annuum
AF98344.1	AF275745	Lycopersicon esculentum	CMA75214.1	Y14973	Nicotiana tabacum
RAA55399.1	AF179442	Lycopersicon esculentum	CMA76770.1	Y17503	Nicotiana tabacum
CAC25436.1	AJ310524	Vicia faba	CMA10210.1	AJ130829	Capsicum annuum
BAA08134.1	D45189	Zostera marina	RAA77993.1	U73746	Gossypium hirsutum
BAA01058.1	D10207	Oryza sativa	RAA79922.1	U19941	Fragaria x ananassa







AAA33008.1	M97667	Brassica napus	BAA92500.1	AF001383	Oryza sativa
CMA79355.1	Z18921	Brassica oleracea	CMA62228.1	X90695	Medicago sativa
CMA79132.1	D88193	Brassica rapa	CMA0796.1	X57564	Amoracia rusticana
AAA62232.1	U00443	Brassica napus	CMA43561.1	AF155124	Gossypium hirsutum
AAA06285.1	D30049	Brassica rapa	CMA62615.1	X91232	Mercularialis annua
BAA92837.1	AB032474	Brassica oleracea	AAA56537.1	L13654	Lycopersicon esculentum
BAA07576.1	D38563	Brassica rapa	BAA11413.1	D90115	Amoracia rusticana
BAA07572.1	D38564	Brassica rapa	BAA01877.1	D11102	Populus kitakamensis
BAB21001.1	AB054061	Brassica rapa	BAF63025.1	AF244922	Spinacia oleracea
ABD52097.1	AF088885	Nicotiana tabacum	CAB94592.1	AJ242742	Ipomoea batatas
BAK21965.1	XV028699	Brassica napus	CMA76374.2	Y16776	Spinacia oleracea
AAA33015.1	Z27821	Oryza sativa	BAB47602.1	L07554	Linum usitatissimum
BAA94509.1	AB041503	Populus nigra	BAB97734.1	AE014502	Glycine max
CAB51836.1	AJ243961	Oryza sativa	BAF63026.1	AZ244923	Spinacia oleracea
ABG16628.1	AY007545	Brassica napus	CAB65334.1	AJ250121	Picea abies
BAA94510.1	AB041504	Populus nigra	AAA56536.1	L13653	Lycopersicon esculentum
ABG03090.1	AC073405	Oryza sativa	CAR66037.1	X97351	Populus balsamifera subsp. trichocarpa
SEQ ID NO. 2570			trichocarpa		
AAAD11483.1	U51193	Glycine max	BAA11853.1	D83225	Populus nigra
AAAD11484.1	U51194	Glycine max	BAA01950.1	D11337	Vigna angularis
CMA76376.1	Y16778	Spinacia oleracea	CAR80502.1	Z22920	Spirodela polyrrhiza
CAC21393.1	AJ401276	Zea mays	AAA8491.1	L36981	Petroselinum crispum
AAF63027.1	AF244924	Spinacia oleracea	CMA66034.1	X97348	Populus balsamifera subsp. trichocarpa
AAA32676.1	M37637	Arachis hypogaea	CAC21391.1	AJ401274	Zea mays
CMA7195.1	Y10469	Spinacia oleracea	CMA7190.1	Y10464	Spinacia oleracea
BAA77387.1	AB024437	Scutellaria baicalensis	SEQ ID NO. 2575		
BAA03644.1	D14997	Oryza sativa	AAAD17487.1	AF049347	Barbieris stolonifera
BA394962.1	AB042103	Asparagus officinalis	BAE20352.1	S65550	Eschscholzia californica
CMA09881.1	AJ011839	Trifolium repens	CAC39358.1	AF005655	Eschscholzia californica
CMA54413.1	X94943	Lycopersicon esculentum	AAAC6139.1	AF025430	Papaver somniferum
AAF63024.1	AB244921	Spinacia oleracea	SEQ ID NO. 2577		
BAA07664.1	D42065	Nicotiana tabacum	BAF76896.1	AB022687	Lycopersicon esculentum
BAA07663.1	D42064	Nicotiana tabacum	BAF97517.1	AE250047	Zea mays
AAAD11482.1	U51192	Glycine max	BAF76895.1	AB022686	Lycopersicon esculentum
BAA52497.1	AF001383	Oryza sativa	SEQ ID NO. 2578		
BAA92422.1	AF001366	Oryza sativa	AAAD1872.1	AE078082	Phaseolus vulgaris
AAAD11481.1	U51191	Glycine max	BAF93834.1	U62481	Zea mays
BAA48986.1	U16727	Medicago truncatula			
ABG67737.1	L77080	Stylosanthes humilis			
ABAB1812.1	L36158	Medicago sativa			



AAK31799.1	AY029190	Lilium longiflorum	BRM6059.1	AB014456	Pyrus pyrifolia
AAA34173.1	M60166	Lycopersicon esculentum	AAC49926.1	AF000975	Medicago sativa
CAC29435.1	AJ310523	Vicia faba	ABD38189.1	AF154917	Ocimum basilicum
AAF98344.1	AF275745	Lycopersicon esculentum	AAA18532.1	L14063	Zea mays
AAU55399.1	AF179412	Lycopersicon esculentum	AAU49928.1	U97125	Medicago sativa
CAS59800.1	X85805	Zea mays	AAC49927.1	AF000976	Medicago sativa
CAS54046.1	X76536	Solanum tuberosum	AAU38190.1	AF154918	Ocimum basilicum
RAA34052.1	M78888	Nicotiana glauca	AAD29842.1	AF064694	Thalictrum tuberosum
CAC33790.1	X93592	Dunaliella bioculata	AAD29844.1	AF064696	Thalictrum tuberosum
RAA49042.1	U54690	Dunaliella acidophila	AAD29845.1	AF064693	Thalictrum tuberosum
CAS59799.1	X85804	Phaseolus vulgaris	AAC49941.1	U95954	Pisum sativum
BAH50310.2	AB001111	Oryza sativa	AAU43922.1	AF212316	Capsicum annuum
RAA34136.1	N96324	Lycopersicon esculentum	CAS52461.1	X74452	Nicotiana tabacum
ADU11617.1	AF050495	Lycopersicon esculentum	AAD29848.1	AF061697	Thalictrum tuberosum
CAS52107.1	X73901	Dunaliella bioculata	CAS52462.1	X74453	Nicotiana tabacum
RAA11618.1	AF050496	Lycopersicon esculentum	BAH08559.1	D49711	Populus kitakamiensis
AAD31896.1	AF145478	Mesembryanthemum crystallinum	ABU61731.1	U13171	Populus tremuloides
AAU28436.1	AF195029	Glycine max	CRA44006.1	X62096	Populus tremuloides
CAR68234.1	X99972	Brassica oleracea	RAA17455.1	U83789	Capsicum annuum
ABH58910.1	U82966	Oryza sativa	AAD29843.1	AF064695	Thalictrum tuberosum
AAA34099.1	M80491	Nicotiana glauca	ABH68049.1	U50522	Populus tremuloides
AAU20600.1	U08984	Zea mays	AAC01531.1	U66760	Clarkia breweri
AAU20601.1	U08985	Zea mays	AAF60951.1	M73431	Populus tomentosa
AAU20602.1	AF289025	Cucumis sativus	AAF63200.1	AF237777	Populus tomentosa
AAU20603.1	AF289025	Cucumis sativus	BAH08558.1	D49710	Populus kitakamiensis
SEQ ID NO. 2581			CAS52814.1	X74814	Eucalyptus gunnii
AAF70507.1	AF259801	Lycopersicon esculentum	ABU71141.1	AF006009	Clarkia breweri
RAA27714.1	AF076954	Zea mays	CAS54616.1	X77467	Hordeum vulgare
CAR78262.1	U12616	Triticum aestivum	RAA46623.1	M63853	Medicago sativa
RAA34295.1	M95818	Triticum aestivum	RAA78475.1	AF031214	Capsicum chinense
RAA34296.1	M95819	Triticum aestivum	CAS58218.1	X83217	Prunus dulcis
RAA27715.1	AF076955	Zea mays	ABH67118.1	U19911	Zinnia elegans
SEQ ID NO. 2582			RAA13175.1	AJ231133	Saccharum officinarum
AAU49708.1	U39301	Pinus taeda	ADU10485.1	U76384	Triticum aestivum
AAU09044.1	U70873	Pinus radiata	AAD48913.1	AF139533	Liquidambar styraciflua
AAD24004.1	AF119225	Pinus radiata	AAC48623.1	AF010291	Lotium perenne
AAU71213.1	U82011	Prunus americana	AAF44672.1	AF0239740	Vitis vinifera
BAH08005.1	D29812	Coptis japonica	AAU50439.1	AF168776	Eucalyptus globulus
BAH08004.1	D29811	Coptis japonica	AAU28353.1	AF220491	Fragaria x ananassa
CAA11131.1	AJ223151	Prunus dulcis	ABH03364.1	M73235	Zea mays
			AAA80579.1	U16794	Chrysosplenium americanum



DBA717676.1	AB007126	Glycine max	RA041022.1	AB047095	Vitis vinifera
DBA21743.2	AB006188	Oryza sativa	RA021086.1	AF27218	Porphyria x intermedia
AB006998	AB007127	Oryza sativa	RA041020.1	AB047093	Vitis vinifera
AB006998	AB007127	Beta vulgaris	BA019639.1	AB002818	Perilla frutescens
DBA717677.1	S66038	Glycine max	BA041018.1	AB047091	Vitis labrusca x Vitis vinifera
AB007127	X88802	Vigna unguiculata	CA081683.1	AF000372	Vitis vinifera
AB000097	X88802	Glycine max	CA0854610.1	X77460	Manihot esculenta
AB079692	AB079692	Butula pendula	SEQ ID NO. 2613		
SEQ ID NO. 2606			CA012358.1	AF225027	Cicer arietinum
SEQ ID NO. 2612		Cuphea lanceolata	AA013986.1	AF298827	Prunus avium
	X79677		CA063960.1	X94296	Hordeum vulgare
SEQ ID NO. 2612			SEQ ID NO. 2614		
SEQ ID NO. 2612			AA087182.1	U20808	Vigna radiata
AB045609.1	X77459	Manihot esculenta	SEQ ID NO. 2615		
CA054611.1	X77461	Manihot esculenta	RA070538.1	AF017358	Oryza sativa
CA054613.1	X77463	Manihot esculenta	CA063680.1	X95979	Hordeum vulgare
CA054612.1	X77462	Manihot esculenta	AA026451.1	AF221503	Pyrus communis
AB036653.1	U32614	Nicotiana tabacum	AA070046.1	U29176	Oryza sativa
AB036652.1	U32613	Nicotiana tabacum	RA073985.1	AF151214	Nicotiana glauca
AA028303.1	AF16431	Nicotiana tabacum	BA023548.1	AB007843	Picea abies
AB079692	X18871	Dorotheanthus bellidiformis	AA021293.1	AF331710	Avicennia marina
CA000000	AB04632	Lycopersicon esculentum	BA096206.1	AF002094	Oryza sativa
AB04632	X85138	Sorghum bicolor	BA086694.1	U18127	Hordeum vulgare
AB04632	AF199453	Scutellaria baicalensis	CA041946.1	X95235	Hordeum vulgare
AB04632	AB031274	Nicotiana tabacum	AA044267.1	X62395	Nicotiana tabacum
AB04632	AF190634	Pentunia x hybrida	CA048621.1	X68654	Hordeum vulgare
AB04632	AB027454	Citrus unshiu	AA027707.1	AF302788	Trifolium aestivum
AB04632	AB033758	Pentunia x hybrida	CA085484.1	X37115	Hordeum vulgare
AB04632	AB027455	Solanum tuberosum	AA063372.1	AF093751	Brassica oleracea
AB04632	AB048444.1	Phaseolus lunatus	AA073945.1	U33904	Brassica oleracea
AB04632	AF165148	Pentunia x hybrida	AB070540.1	AF017360	Oryza sativa
AB04632	X77464	Manihot esculenta	AB065612.1	U63993	Hordeum vulgare
AB04632	AB047096	Vitis vinifera	CA091436.1	X65528	Hordeum vulgare
AB04632	AB047098	Vitis vinifera	CA091435.1	X65528	Hordeum vulgare
AB04632	AB047094	Vitis vinifera	AA020395.1	AF334185	Trifolium aestivum
AB04632	AB047039	Vitis vinifera	AA080805.1	U90342	Pinus radiata
AB04632	AB047039	Vitis vinifera	CA050661.1	X71668	Sorghum bicolor
AB04632	AB047039	Gentiana triflora	CA050660.1	X71667	Sorghum bicolor
AB04632	D85186				

APAC49860.1	U27265	Phaseolus vulgaris	AAAD10495.1	U67763	Triticum aestivum
AAAF71695.1	AF198168	Abrus japonica	AAK26848.1	AF342809	Zea mays
AAAG6949.1	Y08691	Oryza sativa	SEQ ID NO. 2620		Pisum sativum
AAAB18815.1	U77295	Oryza sativa	AAAB33076.1	X75327	Nicotiana glauca
AAAY74624.1	U31766	Oryza sativa	AAAB47571.1	U97848	Nicotiana glauca
AAAB70541.1	AF021361	Oryza sativa	AAAF08296.1	U97848	Nicotiana glauca
AAAF76450.1	AF221502	Malus domestica	AAAB33075.1	AF196292	Agrostis hyemalis
AAAF74232.1	AF109195	Hordeum vulgare	AAAB18543.1	X75326	Zea mays
AAAF23459.1	AF208633	Capsicum annuum	AAAB58165.1	AF000132	Arachis hypogaea
AAAB70539.1	AF017359	Oryza sativa	AAAB33076.1	AF000132	Arachis hypogaea
AAAB33947.1	X33906	Brassica oleracea	AAAB33076.1	AF000132	Arachis hypogaea
AAAB33943.1	J04176	Zea mays	AAAB33076.1	AF000132	Arachis hypogaea
AAAB5475.1	X36714	Prunus dulcis	AAAB33076.1	AF000132	Arachis hypogaea
AAAB6823.1	X66656	Hordeum vulgare	AAAB33076.1	AF000132	Arachis hypogaea
AAAB0809.1	X23271	Oryza sativa	AAAB33076.1	AF000132	Arachis hypogaea
AAAB50662.1	X71669	Sorghum bicolor	AAAB33076.1	AF000132	Arachis hypogaea
AAAB06443.1	U66105	Zea mays	AAAB33076.1	AF000132	Arachis hypogaea
SEQ ID NO. 2617			AAAB33076.1	AF000132	Arachis hypogaea
AAAB51393.1	U92651	Brassica oleracea var. botrytis	AAAB33076.1	AF000132	Arachis hypogaea
AAAD39372.1	AF118381	Brassica napus	AAAB33076.1	AF000132	Arachis hypogaea
AAAB12722.1	AB048248	Pyrus communis	AAAB33076.1	AF000132	Arachis hypogaea
CAAC01618.1	AF251652	Medicago truncatula	AAAB33076.1	AF000132	Arachis hypogaea
AAAF82790.1	AF275315	Lotus japonicus	AAAB33076.1	AF000132	Arachis hypogaea
CAAC04846.1	AF020793	Medicago sativa	AAAB33076.1	AF000132	Arachis hypogaea
CAAC69353.1	Y08161	Nicotiana tabacum	AAAB33076.1	AF000132	Arachis hypogaea
CAAC09245.1	AF037061	Zea mays	AAAB33076.1	AF000132	Arachis hypogaea
AAAD10494.1	U96762	Triticum aestivum	AAAB33076.1	AF000132	Arachis hypogaea
AAAB17284.1	U43291	Mesembryanthemum crystallinum	AAAB33076.1	AF000132	Arachis hypogaea
AAK26767.1	AF326500	Zea mays	AAAB33076.1	AF000132	Arachis hypogaea
CAAC64952.1	X95650	Tulipa gesneriana	AAAB33076.1	AF000132	Arachis hypogaea
CAAC06335.1	AF005078	Picea abies	AAAB33076.1	AF000132	Arachis hypogaea
AAAB51394.1	U92652	Brassica oleracea var. botrytis	AAAB33076.1	AF000132	Arachis hypogaea
AAAD04557.1	U62778	Gossypium hirsutum	AAAB33076.1	AF000132	Arachis hypogaea
CAAC51885.1	X95951	Helianthus annuus	AAAB33076.1	AF000132	Arachis hypogaea
CAAC51884.1	X95950	Helianthus annuus	AAAB33076.1	AF000132	Arachis hypogaea
CAAC39480.1	AF047173	Vernicia fordii	AAAB33076.1	AF000132	Arachis hypogaea
CAAC51887.1	X95953	Helianthus annuus	AAAB33076.1	AF000132	Arachis hypogaea
AAK26767.1	AF326502	Zea mays	AAAB33076.1	AF000132	Arachis hypogaea
CAAC51886.1	X95952	Helianthus annuus	AAAB33076.1	AF000132	Arachis hypogaea
AAK26766.1	AF326501	Zea mays	AAAB33076.1	AF000132	Arachis hypogaea







AAD21572.1	AF078082	Phaseolus vulgaris	SEQ ID NO. 2645	U87982	Sorghum bicolor
AAD52097.1	AF088885	Nicotiana tabacum	ABA19052.1	U87982	Oryza sativa
BAA94516.1	AF001800	Oryza sativa	BAF13828.1	AF162665	Oryza sativa
BAA94517.1	AF001800	Oryza sativa	BAA21098.1	AF001348	Oryza sativa
BAA33915.1	L27821	Oryza sativa	BAA43988.1	AF215823	Zea mays
BAA94529.2	AF001800	Oryza sativa	CAA41377.1	X58463	Beta vulgaris
			CAA41376.1	X58462	Beta vulgaris
			AAA34025.1	N31480	Spinacia oleracea
		Helianthus annuus	ABA41696.1	U69142	Spinacia oleracea
		Helianthus annuus	BAF96793.1	AF030939	Oryza sativa
		Hordeum vulgare	CAAT1003.1	Y09876	Nicotiana tabacum
		Hordeum vulgare	BAF70010.1	AF017150	Amaranthus hypochondriacus
		Triticum turgidum subsp. durum	BAF18544.1	AF043540	Avicennia marina
			BAF88165.1	AF000132	Amaranthus hypochondriacus
			BAF96794.1	AF037421	Oryza sativa
			CAA49425.1	X69770	Atriplex hortensis
			BAF05466.1	D26448	Hordeum vulgare
			AAC49268.1	U12196	Sorghum bicolor
			CAA53075.1	X75326	Zea mays
			AAC03055.1	AF045770	Oryza sativa
			CAA53076.1	X75327	Pisum sativum
			BAF47571.1	U87848	Nicotiana glauca
			BAF08296.1	AF196292	Apium graveolens
			AAC49267.1	U12195	Sorghum bicolor
			SEQ ID NO. 2649		Antirrhinum majus
			CAE56570.1	AJ011623	Antirrhinum majus
			CAE56568.1	AJ011621	Antirrhinum majus
			CAE56569.1	AJ011622	Antirrhinum majus
			CAE63113.1	X32369	Antirrhinum majus
			BAF51071.1	U89496	Zea mays
			CAE63061.1	X32079	Antirrhinum majus
			SEQ ID NO. 2651		Oryza sativa
			AAC13527.1	AC068924	Chlamydomonas reinhardtii
			CAE55326.1	X78589	Solanum tuberosum
			BAF37756.1	L46702	Nicotiana tabacum
			CAE49393.1	U52078	Nicotiana tabacum
			BAF43460.1	AF223412	Zea mays
			BAF40709.1	AB003037	Nicotiana tabacum
			SEQ ID NO. 2647		Brassica napus
			BAF33843.1	S77096	Oryza sativa
			AAC43027.1	AF323586	







BRA36421.1	AB013596	Perilla frutescens	BRA03439.1	D14569	Eustoma grandiflorum
BRA36422.1	AB013597	Perilla frutescens	AAG93435.1	AF315465	Pelargonium x hortorum
BRA12737.1	D85186	Gentiana triflora	AAC39452.1	AF014800	Echechoziza californica
BAB41024.1	AB047097	Vitis vinifera	CNA50648.1	X71657	Solanum melongena
BAB41026.1	AB047099	Vitis vinifera	AAC39453.1	AF014801	Echechoziza californica
BAB41020.1	AB047093	Vitis vinifera	BAA12735.1	D85184	Gentiana triflora
BAB41022.1	AB047095	Vitis vinifera	BAA12735.1	D85184	Gentiana triflora
BAB41026.1	AF127218	Forsythia x intermedia	AAF05621.1	AF191772	Papaver somniferum
BAB41025.1	AB047098	Vitis vinifera	SEQ ID NO. 2672		
BAB41023.1	AB047096	Vitis vinifera	AAC48922.1	U06047	Vigna radiata
BAB41021.1	AB047094	Vitis vinifera			
BAB41019.1	AB047092	Vitis vinifera	SEQ ID NO. 2673		
BAB41018.1	AB047091	Vitis labrusca x Vitis vinifera	BAA93453.1	AB026495	Petunia x hybrida
BAB1682.1	AF000372	Vitis vinifera	BAA74428.1	AB010708	Gentiana triflora
BAB1017.1	AB047090	Vitis vinifera	BAA96577.1	AB020480	Oryza sativa
BAB1659.1	AB020818	Vitis labrusca x Vitis vinifera	BAA93452.1	AB026494	Gentiana triflora
BAB4844.1	U82367	Perilla frutescens	BAA93475.1	AB029340	Perilla frutescens
AAK36652.1	U32643	Solanum tuberosum	ANG13130.1	AF193789	Fragaria x ananassa
AAK28304.1	AF346432	Nicotiana tabacum	SEQ ID NO. 2674		
AAK36653.1	U32644	Nicotiana tabacum	AAF19807.1	AF180356	Brassica oleracea
AAK28303.1	AF346431	Nicotiana tabacum	BAA92986.1	AF001550	Oryza sativa
BAA90787.1	AB038248	Ipomoea batatas	AAF19403.1	AF203481	Lycopersicon esculentum
CNA54612.1	X77462	Manihot esculenta	AAF19402.1	AF203480	Lycopersicon esculentum
AB027454		Petunia x hybrida	BAA95648.1	D26601	Nicotiana tabacum
CNA54614.1	X77464	Manihot esculenta	AAF23900.1	AF194413	Oryza sativa
			AAF23901.2	AF194414	Oryza sativa
			CNA89202.1	Z49233	Chlamydomonas eugametos
SEQ ID NO. 2669			BAA13440.1	D87707	Ipomoea batatas
AAK56282.1	AF155332	Petunia x hybrida	AAF21062.1	AF216527	Dunaliella tertiolecta
BAB20076.1	AB012925	Torenia hybrida	BAA85396.1	AF000615	Oryza sativa
CNA80266.1	D22545	Petunia x hybrida	AAK52770.1	AF048691	Oryza sativa
BAB03438.1	D14588	Petunia x hybrida	CNA04324.1	U73937	Nicotiana tabacum
AAK22274.1	AF081575	Petunia x hybrida	AAK73067.1	Y12464	Sorghum bicolor
CNA80850.1	AF011662	Catarranthus roseus	CNA57156.1	X61393	Oryza sativa
AAK49299.1	AF313489	Callistephus chinensis	AAK56872.1	AF209819	Zea mays
AAK50155.1	X70824	Lycianthes rantonneti	AAK7800.1	AF090635	Mesembryanthemum crystallinum
BAB03440.1	D14590	Solanum melongena	CNA3659.1	X61387	Zea mays
CNA80265.1	Z22544	Campanula medium	AAF76187.1	AF271237	Zea mays
ABAB1562.1	U72654	Petunia x hybrida	BAB21591.1	AB036788	Oryza sativa
AAK49301.1	AF313491	Eustoma grandiflorum	BAB21589.1	AB036786	Oryza sativa
		Matthiola incana			













AAB99745.1	AF005993	Triticum aestivum
AAB88134.1	AF034618	Spinacia oleracea
CAA44620.1	X62799	Glycine max
CAB37971.1	X54030	Lycopersicon esculentum
AAB88009.1	AF035414	Brassica napus
CAB72130.1	AJ249331	Cucumis sativus
AAB34134.1	AF161180	Malus x domestica
CAB72129.1	AJ249330	Cucumis sativus
CAB47946.1	X67711	Oryza sativa
AAB88133.1	AF034617	Spinacia oleracea
AAB88132.1	AF034616	Spinacia oleracea
AAB97316.1	AF033852	Spinacia oleracea
CAB43711.1	X61491	Spinacia oleracea

What is claimed is:

1. A method of identifying a stress condition to which a plant cell has been exposed, the method comprising:

5 a) contacting nucleic acid molecules representative of expressed polynucleotides in the plant cell with an array of probes representative of the plant cell genome; and

b) detecting a profile of expressed polynucleotides in the plant cell characteristic of a stress response, thereby identifying the stress condition to which the plant cell was exposed.

10

2. The method of claim 1, wherein the stress condition is an abiotic stress condition.

15 3. The method of claim 2, wherein the abiotic stress is a cold stress condition, an osmotic stress condition, a saline stress condition, or a combination thereof.

4. The method of claim 1, wherein the profile is characteristic of exposure to a single stress condition.

20 5. The method of claim 1, wherein the profile is characteristic of a cold stress response, and wherein the expressed polynucleotides comprise one or a plurality of SEQ ID NOS:1-155, 157-229, 230-232, 234-557, 559-572, 574-605, 607-634, 636-634, 636-786, 788-812, and 814-1261.

25 6. The method of claim 1, wherein the profile is characteristic of a cold stress response, and wherein the expressed polynucleotides comprise one or a plurality of SEQ ID NOS:1-1261.

30 7. The method of claim 1, wherein the profile is characteristic of an osmotic stress response, and wherein the expressed polynucleotides comprise one or a plurality of SEQ ID NOS:2428-2585.

8. The method of claim 1, wherein the profile is characteristic of a saline stress response, and wherein the expressed polynucleotides comprise one or a plurality of SEQ ID NOS:2227-2427.
- 5           9. The method of claim 2, wherein the profile is characteristic of exposure to at least two abiotic stress conditions.
- 10           10. The method of claim 9, wherein the abiotic stress conditions are cold and osmotic stress conditions, and wherein the expressed polynucleotides comprise one or a plurality of SEQ ID NOS:1699-1725, 1727-1865, 1867-1917, 1919-1927, and 1929-1969.
- 15           11. The method of claim 9, wherein the abiotic stress conditions are cold and osmotic stress conditions, and wherein the expressed polynucleotides comprise one or a plurality of SEQ ID NOS:1699-1969.
- 20           12. The method of claim 9, wherein the abiotic stress conditions are cold and saline stress conditions, and wherein the expressed polynucleotides comprise one or a plurality of SEQ ID NOS:1970-2226.
- 25           13. The method of claim 9, wherein the abiotic stress conditions are osmotic and saline stress conditions, and wherein the expressed polynucleotides comprise one or a plurality of SEQ ID NOS:2586-2703.
- 30           14. The method of claim 9, wherein the abiotic stress conditions are cold, osmotic and saline stress conditions, and wherein the expressed polynucleotides comprise one or a plurality of SEQ ID NOS:1262, 1264-1386, 1387-1390, 1392-1404, 1406-1444, 1446-1483, 1485-1588, 1590-1608, 1610-1633, and 1634-1698.
15. The method of claim 9, wherein the abiotic stress conditions are cold, osmotic and saline stress conditions, and wherein the expressed polynucleotides comprise one or a plurality of SEQ ID NOS:1262-1698.

16. The method of claim 1, wherein the nucleic acid molecules representative of expressed polynucleotides in the plant cell are RNA molecules or cDNA molecules.

5

17. The method of claim 1, wherein the array of probes representative of the plant cell genome is immobilized on a microchip.

18. A method for determining whether a test plant has been exposed to an abiotic stress, the method comprising contacting nucleic acid molecules representative of expressed polynucleotides in cells of the test plant with at least one nucleic acid probe under conditions suitable for selective hybridization to a complementary nucleotide sequence,

15 wherein the probe comprises at least 15 nucleotides of a plant stress-regulated gene, provided said gene does not comprise a nucleotide sequence of a polynucleotide as set forth in any of SEQ ID NOS:156, 229, 233, 558, 573, 606, 635, 787, 813, 1263, 1386, 1391, 1405, 1445, 1484, 1589, 1609, 1634, 1726, 1866, 1918 or 1928, or a nucleotide sequence complementary thereto,

whereby

20 detecting selective hybridization of at least one nucleic acid probe, or detecting a change in a level of selective hybridization as compared to a level of selective hybridization obtained using nucleic acid molecules representative of expressed polynucleotides in cells of a plant known not have been exposed to an abiotic stress,

25 indicates that the test plant has been exposed to an abiotic stress, and whereby an absence of selective hybridization of at least one nucleic acid probe indicates that the test plant has not been exposed to an abiotic stress.

19. The method of claim 18, wherein the abiotic stress is cold stress, and wherein the probe comprises at least 15 nucleotides of a nucleotide sequence as set forth in any of SEQ ID NOS:1-155, 157-228, 230-232, 234-557, 559-572, 574-605, 607-634, 636-786, 788-812, 814-1261 or a nucleotide sequence complementary thereto.
20. The method of claim 18, wherein the abiotic stress is saline stress, and wherein the probe comprises at least 15 nucleotides of a nucleotide sequence as set forth in any of SEQ ID NOS:2226-2427 or a nucleotide sequence complementary thereto.
21. The method of claim 18, wherein the abiotic stress is osmotic stress, and wherein the probe comprises at least 15 nucleotides of a nucleotide sequence as set forth in two or more of SEQ ID NOS:2428-2585 or a nucleotide sequence complementary thereto.
22. A method for determining whether a test plant has been exposed to a cold stress, the method comprising contacting nucleic acid molecules representative of expressed polynucleotides in cells of the test plant with at least one nucleic acid probe under conditions suitable for selective hybridization to a complementary nucleotide sequence, wherein the probe comprises at least 15 nucleotides of a nucleotide sequence as set forth in any of SEQ ID NOS:1-155, 157-228, 230-232, 234-557, 559-572, 574-605, 607-634, 636-786, 788-812, 814-1261, or a nucleotide sequence complementary thereto, whereby
- detecting selective hybridization of at least one nucleic acid probe, or
  - detecting a change in a level of selective hybridization as compared to a level of selective hybridization obtained using nucleic acid molecules representative of expressed polynucleotides in cells of a plant known not have been exposed to a cold stress,
  - indicates that the test plant has been exposed to a cold stress, and

whereby an absence of selective hybridization of at least one nucleic acid probe indicates that the test plant has not been exposed to a cold stress.

23. A method for determining whether a test plant has been exposed to a saline stress, the method comprising contacting nucleic acid molecules representative of expressed polynucleotides in cells of the test plant with at least one nucleic acid probe under conditions suitable for selective hybridization to a complementary nucleotide sequence,

wherein the probe comprises at least 15 nucleotides of a nucleotide sequence as set forth in any of SEQ ID NOS:2226-2427, or a nucleotide sequence complementary thereto,

whereby

- detecting selective hybridization of at least one nucleic acid probe, or detecting a change in a level of selective hybridization as compared to a level of selective hybridization obtained using nucleic acid molecules representative of expressed polynucleotides in cells of a plant known not have been exposed to a saline stress,

indicates that the test plant has been exposed to a saline stress, and whereby an absence of selective hybridization of at least one nucleic acid probe indicates that the test plant has not been exposed to a saline stress.

24. A method for determining whether a test plant has been exposed to an osmotic stress, the method comprising contacting nucleic acid molecules representative of expressed polynucleotides in cells of the test plant with at least one nucleic acid probe under conditions suitable for selective hybridization to a complementary nucleotide sequence,

wherein the probe comprises at least 15 nucleotides of a nucleotide sequence as set forth in two or more of SEQ ID NOS:2428-2585, or a nucleotide sequence complementary thereto,



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whereby

detecting selective hybridization of at least one nucleic acid probe, or  
detecting a change in a level of selective hybridization as compared to  
a level of selective hybridization obtained using nucleic acid molecules  
representative of expressed polynucleotides in cells of a plant known not have  
been exposed to an osmotic stress,

indicates that the test plant has been exposed to an osmotic stress, and  
whereby an absence of selective hybridization of at least one nucleic acid  
probe indicates that the test plant has not been exposed to an osmotic stress.

25. A method for determining whether a test plant has been exposed to a  
combination of abiotic stress conditions, the method comprising contacting nucleic  
acid molecules representative of expressed polynucleotides in cells of the test plant  
with at least one nucleic acid probe under conditions suitable for selective

hybridization to a complementary nucleotide sequence,

whereby

detecting selective hybridization of at least one nucleic acid probe, or  
detecting a change in a level of selective hybridization as compared to  
a level of selective hybridization obtained using nucleic acid molecules  
representative of expressed polynucleotides in cells of a plant known not have  
been exposed to a combination of stress conditions,

indicates that the test plant has been exposed to a combination of  
abiotic stress conditions, and

whereby an absence of selective hybridization of at least one nucleic acid  
probe indicates that the test plant has not been exposed to a combination of abiotic  
stress conditions.

26. The method of claim 25, wherein the combination of abiotic stress  
conditions is a combination of a cold stress and an osmotic stress, and wherein the  
probe comprises at least 15 nucleotides of a nucleotide sequence as set forth in any of  
SEQ ID NOS:1699-1969, or a nucleotide sequence complementary thereto.

27. The method of claim 25, wherein the combination of abiotic stress conditions is a combination of a cold stress and a saline stress, and wherein the probe comprises at least 15 nucleotides of a nucleotide sequence as set forth in any of SEQ ID NOS:1970-2226, or a nucleotide sequence complementary thereto.

5

28. The method of claim 25, wherein the combination of abiotic stress conditions is a combination of an osmotic stress and a saline stress, and wherein the probe comprises at least 15 nucleotides of a nucleotide sequence as set forth in any of SEQ ID NOS:2586-2703, or a nucleotide sequence complementary thereto.

10

29. The method of claim 25, wherein the combination of abiotic stress conditions is a combination of a cold stress, a saline stress and an osmotic stress, and wherein the probe comprises at least 15 nucleotides of a nucleotide sequence as set forth in any of SEQ ID NOS:1262-1698, or a nucleotide sequence complementary thereto.

15

30. A method for determining whether a test plant has been exposed to a cold stress and an osmotic stress, the method comprising contacting nucleic acid molecules representative of expressed polynucleotides in cells of the test plant with at least one nucleic acid probe under conditions suitable for selective hybridization to a complementary nucleotide sequence,

20

wherein the probe comprises at least 15 nucleotides of a nucleotide sequence as set forth in any of SEQ ID NOS:1699-1969, or a nucleotide sequence complementary thereto,

25

whereby

detecting selective hybridization of at least one nucleic acid probe, or  
detecting a change in a level of selective hybridization as compared to  
a level of selective hybridization obtained using nucleic acid molecules  
representative of expressed polynucleotides in cells of a plant known not have  
been exposed to a cold stress and an osmotic stress,  
indicates that the test plant has been exposed to a cold stress and an osmotic  
stress, and

30

whereby an absence of selective hybridization of at least one nucleic acid probe indicates that the test plant has not been exposed to a cold stress and an osmotic stress.

5           31. A method for determining whether a test plant has been exposed to a cold stress and a saline stress, the method comprising contacting nucleic acid molecules representative of expressed polynucleotides in cells of the test plant with at least one nucleic acid probe under conditions suitable for selective hybridization to a complementary nucleotide sequence,

10           wherein the probe comprises at least 15 nucleotides of a nucleotide sequence as set forth in any of SEQ ID NOS:1970-2226, or a nucleotide sequence complementary thereto,

whereby

15           detecting selective hybridization of at least one nucleic acid probe, or detecting a change in a level of selective hybridization as compared to a level of selective hybridization obtained using nucleic acid molecules representative of expressed polynucleotides in cells of a plant known not have been exposed to a cold stress and a saline stress,

20           indicates that the test plant has been exposed to a cold stress and a saline stress, and

whereby an absence of selective hybridization of at least one nucleic acid probe indicates that the test plant has not been exposed to a cold stress and a saline stress.

25           32. A method for determining whether a test plant has been exposed to an osmotic stress and a saline stress, the method comprising contacting nucleic acid molecules representative of expressed polynucleotides in the test plant with at least one nucleic acid probe under conditions suitable for selective hybridization to a complementary nucleotide sequence,

30           wherein the probe comprises at least 15 nucleotides of a nucleotide sequence as set forth in any of SEQ ID NOS:2586-2703, or a nucleotide sequence complementary thereto,

whereby

detecting selective hybridization of at least one nucleic acid probe, or  
detecting a change in a level of selective hybridization as compared to  
a level of selective hybridization obtained using nucleic acid molecules  
representative of expressed polynucleotides in cells of a plant known not have  
been exposed to an osmotic stress and a saline stress,

indicates that the test plant has been exposed to an osmotic stress and a  
saline stress, and

whereby an absence of selective hybridization of at least one nucleic acid  
probe indicates that the test plant has not been exposed to an osmotic stress and a  
saline stress.

33. A method for determining whether a test plant has been exposed to a cold  
stress, a saline stress and an osmotic stress, the method comprising contacting nucleic  
acid molecules representative of expressed polynucleotides in cells of the test plant  
with a plurality of nucleic acid probes under conditions suitable for selective  
hybridization to a complementary nucleotide sequence,

wherein the probe comprises at least 15 nucleotides of a nucleotide sequence  
as set forth in any of SEQ ID NOS:1262-1698, or a nucleotide sequence  
complementary thereto,

whereby

detecting selective hybridization of at least one nucleic acid probe, or  
detecting a change in a level of selective hybridization as compared to  
a level of selective hybridization obtained using nucleic acid molecules  
representative of expressed polynucleotides in cells of a plant known not have  
been exposed to a cold stress, a saline stress, and an osmotic stress,

indicates that the test plant has been exposed to a cold stress, a saline  
stress and an osmotic stress, and

whereby an absence of selective hybridization of at least one nucleic acid  
probe indicates that the test plant has not been exposed to a cold stress, a saline stress  
and an osmotic stress.

34. A method for determining whether a test plant has been exposed to a cold stress, the method comprising detecting a level of expression of at least one polynucleotide comprising a nucleotide sequence as set forth in SEQ ID NOS:1-155, 157-229, 230-232, 234-557, 559-572, 574-605, 607-634, 636-634, 636-786, 788-812, and 814-1261 in cells of the test plant,
- 5        wherein
- detecting a level of expression that is at least about two-fold different from a level of expression of the at least one polynucleotide in cells of a plant not exposed to a cold stress, or
- 10        detecting a level of expression that is less than about two-fold different from a level of expression of the at least one polynucleotide in cells of a plant known to be exposed to a cold stress,
- indicates the test plant has been exposed to a cold stress, or
- wherein
- 15        detecting a level of expression that is less than at least about two-fold different from a level of expression of the at least one polynucleotide in cells of a plant not exposed to a cold stress, or
- detecting a level of expression that is at least two-fold different from a level of expression of the at least one polynucleotide in cells of a plant known
- 20        to be exposed to a cold stress,
- indicates the test plant has not been exposed to a cold stress.

35. A method for determining whether a test plant has been exposed to a saline stress, the method comprising detecting a level of expression of at least one polynucleotide comprising a nucleotide sequence as set forth in SEQ ID NOS:2226-2427 in cells of the test plant,
- 25

wherein

detecting a level of expression that is at least about two-fold different from a level of expression of the at least one polynucleotide in cells of a plant not exposed to a saline stress, or

5 detecting a level of expression that is less than about two-fold different from a level of expression of the at least one polynucleotide in cells of a plant known to be exposed to a saline stress,

indicates the test plant has been exposed to a saline stress, or  
wherein

10 detecting a level of expression that is less than about two-fold different from a level of expression of the at least one polynucleotide in cells of a plant not exposed to a saline stress, or

detecting a level of expression that is at least about two-fold different from a level of expression of the at least one polynucleotide in cells of a plant  
15 known to be exposed to a saline stress,

indicates the test plant has not been exposed to a saline stress.

36. A method for determining whether a test plant has been exposed to an osmotic stress, the method comprising detecting a level of expression of at least one  
20 polynucleotide comprising a nucleotide sequence as set forth in SEQ ID NOS:2428-2585 in cells of the test plant,

wherein

25 detecting a level of expression that is at least about two-fold different from a level of expression of the at least one polynucleotide in cells of a plant not exposed to an osmotic stress, or

detecting a level of expression that is less than about two-fold different from a level of expression of the at least one polynucleotide in cells of a plant known to be exposed to an osmotic stress,

indicates the test plant has been exposed to an osmotic stress, or

30

wherein

detecting a level of expression that is less than about two-fold different from level of expression of the at least one polynucleotide in cells of a plant not exposed to an osmotic stress, or

- 5        detecting a level of expression that is at least about two-fold different from a level of expression of the at least one polynucleotide in cells of a plant known to be exposed to an osmotic stress,

         indicates the test plant has not been exposed to a osmotic stress.

- 10        37. A method for determining whether a test plant has been exposed to a cold stress and an osmotic stress, the method comprising detecting a level of expression of at least one polynucleotide comprising a nucleotide sequence as set forth in SEQ ID NOS:1699-1969 in cells of the test plant,

         wherein

- 15        detecting a level of expression that is at least about two-fold different from a level of expression of the at least one polynucleotide in cells of a plant not exposed to a cold stress and an osmotic stress, or

         detecting a level of expression that is less than about two-fold different from a level of expression of the at least one polynucleotide in cells of a plant known to be exposed to a cold stress and an osmotic stress,

- 20        indicates the test plant has been exposed to a cold stress and an osmotic stress, or  
         wherein

         detecting a level of expression that is less than about two-fold different from as a level of expression of the at least one polynucleotide in cells of a plant not exposed to a cold stress and an osmotic stress, or

- 25        detecting a level of expression that is at least about two-fold different from a level of expression of the at least one polynucleotide in cells of a plant known to be exposed to a cold stress and an osmotic stress,

- 30        indicates the test plant has not been exposed to a cold stress and an osmotic stress.

38. A method for determining whether a test plant has been exposed to a cold stress and a saline stress, the method comprising detecting a level of expression of at least one polynucleotide comprising a nucleotide sequence as set forth in SEQ ID NOS:1970-2226 in cells of the test plant,

5       wherein

      detecting a level of expression that is at least about two-fold different from a level of expression of the at least one polynucleotide in cells of a plant not exposed to a cold stress and a saline stress, or

      detecting a level of expression that is less than about two-fold different  
10       from as a level of expression of the at least one polynucleotide in cells of a plant known to be exposed to a cold stress and a saline stress,

      indicates the test plant has been exposed to a cold stress and a saline stress, or  
      wherein

15       detecting a level of expression that is less than about two-fold different from as a level of expression of the at least one polynucleotide in cells of a plant not exposed to a cold stress and a saline stress, or

      detecting a level of expression that is at least about two-fold different from a level of expression of the at least one polynucleotide in cells of a plant  
20       known to be exposed to a cold stress and a saline stress,

      indicates the test plant has not been exposed to a cold stress and a saline stress.

39. A method for determining whether a test plant has been exposed to a  
25       saline stress and an osmotic stress, the method comprising detecting a level of expression of at least one polynucleotide comprising a nucleotide sequence as set forth in SEQ ID NOS:2586-2703 in cells of the test plant,

      wherein

      detecting a level of expression that is at least about two-fold different  
30       from a level of expression of the at least one polynucleotide in cells of a plant not exposed to a saline stress and an osmotic stress, or



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detecting a level of expression that is less than about two-fold different from a level of expression of the at least one polynucleotide in cells of a plant known to be exposed to a saline stress and an osmotic stress,

5 indicates the test plant has been exposed to a saline stress and an osmotic stress, or  
wherein

detecting a level of expression that is less than about two-fold different from a level of expression of the at least one polynucleotide in cells of a plant not exposed to a saline stress and an osmotic stress, or

10 detecting a level of expression that is at least about two-fold different from a level of expression of the at least one polynucleotide in cells of a plant known to be exposed to saline stress and an osmotic stress,

indicates the test plant has not been exposed to a saline stress and an osmotic stress.

15

40. A method for determining whether a test plant has been exposed to a cold stress, the method comprising detecting a level of expression of at least one polynucleotide comprising a nucleotide sequence as set forth SEQ ID NOS:1-155, 157-229, 230-232, 234-557, 559-572, 574-605, 607-634, 636-634, 636-786, 788-812, and 814-1261 in cells of the test plant,

20 wherein

detecting a level of expression that is at least about two-fold different from a level of expression of the at least one polynucleotide in cells of a plant not exposed to a cold stress, or

25 detecting a level of expression that is less than about two-fold different from a level of expression of the at least one polynucleotide in cells of a plant known to be exposed to a cold stress,

indicates the test plant has been exposed to a cold stress, or

wherein

30 detecting a level of expression that is less than about two-fold different from a level of expression of the at least one polynucleotide in cells of a plant not exposed to a cold stress, or

detecting a level of expression that is at least about two-fold different from a level of expression of the at least one polynucleotide in cells of a plant known to be exposed to a cold stress,

indicates the test plant has not been exposed to a cold stress.

5

41. A method for determining whether a test plant has been exposed to a cold stress, a saline stress and an osmotic stress, the method comprising detecting a level of expression of at least one polynucleotide comprising a nucleotide sequence as set forth in SEQ ID NOS:1262-1698 in cells of the test plant,

10

wherein

detecting a level of expression that is at least about two-fold different from a level of expression of the at least one polynucleotide in cells of a plant not exposed to a cold stress, a saline stress and an osmotic stress, or

15

detecting a level of expression that is less than about two-fold different from a level of expression of the at least one polynucleotide in cells of a plant known to be exposed to a cold stress, a saline stress and an osmotic stress,

indicates the test plant has been exposed to a cold stress, a saline stress and an osmotic stress, or

wherein

20

detecting a level of expression that is less than about two-fold different from a level of expression of the at least one polynucleotide in cells of a plant not exposed to a cold stress, a saline stress and an osmotic stress, or

25

detecting a level of expression that is at least about two-fold different from a level of expression of the at least one polynucleotide in cells of a plant known to be exposed to a cold stress, a saline stress and an osmotic stress,

indicates the test plant has not been exposed to a cold stress, a saline stress and an osmotic stress.

42. A method of producing a transgenic plant comprising plant cells that exhibit altered responsiveness to at least one stress condition, the method comprising introducing a polynucleotide portion of a plant stress-regulated gene into a plant cell genome, wherein the polynucleotide portion of the stress-regulated gene does not  
5 comprise a nucleotide sequence as set forth in any of SEQ ID NOS:156, 229, 233, 558, 573, 606, 635, 787, 813, 1263, 1386, 1391, 1405, 1445, 1484, 1589, 1609, 1634, 1726, 1866, 1918 or 1928, whereby the polynucleotide portion of the plant stress-regulated gene modulates a response of the plant cells to at least one stress condition, thereby producing a transgenic plant comprising plant cells that exhibit altered  
10 responsiveness to the stress condition.

43. The method of claim 42, wherein the stress condition is cold stress, and wherein the polynucleotide portion of a plant stress-regulated gene comprises a nucleotide sequence as set forth in any of SEQ ID NOS:1-155, 157-228, 230-232,  
15 234-557, 559-572, 574-605, 607-634, 636-786, 788-812, 814-1261, 2704-2855, 2857-2928, 2930-2932, 2934-3256, 3258-3271, 3273-3304, 3306-3323, 3325-3333, 3335-3485, 3487-3511, and 3313-3955.

44. The method of claim 42, wherein the stress condition is saline stress, and  
20 wherein the polynucleotide portion of a plant stress-regulated gene comprises a nucleotide sequence as set forth in any of SEQ ID NOS:2226-2427 and 4910-5107.

45. The method of claim 42, wherein the stress condition is osmotic stress, and wherein the polynucleotide portion of a plant stress-regulated gene comprises a  
25 nucleotide sequence as set forth in any of SEQ ID NOS:2428-2585 and 5108-5263.

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46. A method of producing a transgenic plant comprising plant cells that exhibit altered responsiveness to a combination of at least two stress conditions, the method comprising introducing a polynucleotide portion of a plant stress-regulated gene into a plant cell genome, whereby the polynucleotide portion of the plant stress-regulated gene modulates a response of the plant cells to a combination of at least two stress conditions, thereby producing a transgenic plant comprising plant cells that exhibit altered responsiveness to the stress conditions.
47. The method of claim 46, wherein the combination of at least two stress conditions is a combination of cold stress and osmotic stress, and wherein the polynucleotide portion of the plant stress-regulate gene comprises a nucleotide sequences as set forth in any of SEQ ID NOS:1669-1969 and 4389-4654.
48. The method of claim 46, wherein the combination of at least two stress conditions is a combination of cold stress and osmotic stress, and wherein the polynucleotide portion of the plant stress-regulate gene comprises a nucleotide sequences as set forth in any of SEQ ID NOS:1699-1725, 1727-1865, 1867-1917, 1919-1927, 1929-1969, 4389-4414, 4416-4552, 4554-4602, 4604-4612, and 4613-4654.
49. The method of claim 46, wherein the combination of at least two stress conditions is a combination of cold stress and saline stress, and wherein the polynucleotide portion of the plant stress-regulate gene comprises a nucleotide sequences as set forth in any of SEQ ID NOS:1970-2226 and 4655-4909.
50. The method of claim 46, wherein the combination of at least two stress conditions is a combination of osmotic stress and saline stress, and wherein the polynucleotide portion of the plant stress-regulate gene comprises a nucleotide sequences as set forth in any of SEQ ID NOS:2586-2703 and 5264-5379.

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51. The method of claim 46, wherein the combination of at least two stress conditions is a combination of cold stress, osmotic stress and saline stress, and wherein the polynucleotide portion of the plant stress-regulate gene comprises a nucleotide sequences as set forth in any of SEQ ID NOS:1262-1698 and 3956-4388.
52. The method of claim 46, wherein the combination of at least two stress conditions is a combination of cold stress, osmotic stress and saline stress, and wherein the polynucleotide portion of the plant stress-regulate gene comprises a nucleotide sequences as set forth in any of SEQ ID NOS:1262, 1264-1386, 1387-1390, 1392-1404, 1406-1444, 1446-1483, 1485-1588, 1590-1608, 1610-1633, 1634-1698, 3956, 3958-4078, 4080-4097, 4099-4136, 4138-4175, 4177-4279, 4281-4299, 4301-4324, and 4326-4388.
53. The method of any of claim 42 to 52, wherein the polynucleotide portion of the plant stress-regulated gene encodes a stress-regulated polypeptide or functional peptide portion thereof.
54. The method of claim 53, wherein the stress-regulated polypeptide or functional peptide portion thereof increases the stress tolerance of the transgenic plant.
55. The method of claim 53, wherein the stress-regulated polypeptide or functional peptide portion thereof decreases the stress tolerance of the transgenic plant.
56. The method of claim 53, wherein the polynucleotide portion of the plant stress-regulated gene is operatively linked to a heterologous promoter.
57. The method of any of claim 42 to 52, wherein the polynucleotide portion of the plant stress-regulated gene comprises a stress-regulated regulatory element.

58. The method of claim 57, wherein, upon introducing the stress-regulated regulatory element into the plant cell, the regulatory element integrates into the plant cell genome in a site-specific manner.

5 59. The method of claim 58, wherein, upon integrating into the plant cell genome, the regulatory element is operatively linked to a heterologous nucleotide sequence, which can be expressed in response to a stress condition specific for the regulatory element.

10 60. The method of claim 57, wherein the plant stress-regulated regulatory element is a mutant regulatory element, which is not responsive to the stress condition, whereby upon integrating into the plant cell genome, the mutant regulatory element disrupts an endogenous stress-regulated regulatory element of a plant stress-regulated gene, thereby altering the responsiveness of the plant stress-regulated gene  
15 to the stress condition.

61. The method of any of claim 42 to 60, wherein the stress is an abiotic stress.

20 62. The method of claim 61, wherein the abiotic stress is selected from the group consisting of an abnormal level of cold, osmotic pressure, salinity, and a combination thereof.

63. The method of claim 57, wherein the stress-regulated regulatory element is operatively linked to a polynucleotide encoding a detectable marker.

25

64. A transgenic plant produced by the method of any of claims 42 to 63.

65. A plant cell from the transgenic plant of claim 64, wherein said plant cell exhibits altered responsiveness to the stress condition or stress conditions.

30

66. A seed produced by the transgenic plant of claim 64.

67. A cDNA or genomic DNA library prepared from the transgenic plant of claim 64, or from a plant cell from said transgenic plant, wherein said plant cell exhibits altered responsiveness to the stress condition.

- 5           68. A method for monitoring a population of plants for exposure to a stress condition or combination of stress conditions, the method comprising:
- a) introducing into the population of a plants a sentinel plant, wherein said sentinel plant is a transgenic plant of claim 64, which comprises plant cells containing a stress-regulated regulatory element is operatively linked to a polynucleotide encoding a detectable marker; and
- 10           b) examining the sentinel plant for expression of the detectable marker, which is indicative of exposure of the population of plants to a stress condition or combination of stress conditions,
- thereby monitoring the population of plants for exposure to a stress condition
- 15   or combination of stress conditions.

69. The method of claim 68, wherein said stress condition or combination of stress conditions is an abiotic stress condition or combination of abiotic stress conditions.

20

70. The method of claim 68 or 69, wherein said stress condition or combination of stress conditions is cold stress, osmotic stress, saline stress, and a combination thereof.

- 25           71. The method of any of claims 68 to 70, wherein the stress condition is a cold stress condition, and wherein the regulatory element comprises a nucleotide sequence as set forth in any of SEQ ID NOS:2704-3955.

72. The method of any of claims 68 to 70, wherein the stress condition is a cold stress condition, and wherein the regulatory element comprises a nucleotide sequence as set forth in any of SEQ ID NOS:2704-2855, 2857-2928, 2930-2932, 2934-3256, 3258-3271, 3273-3304, 3306-3323, 3325-3333, 3335-3485, 3487-3511, 5 and 3313-3955.

73. The method of any of claims 68 to 70, wherein the stress condition is a saline stress condition, and wherein the regulatory element comprises a nucleotide sequence as set forth in any of SEQ ID NOS:4910-5107.

10

74. The method of any of claims 68 to 70, wherein the stress condition is an osmotic stress condition, and wherein the regulatory element comprises a nucleotide sequence as set forth in any of SEQ ID NOS:5108-5263.

15 75. The method of any of claims 68 to 70, wherein the combination of stress conditions is cold stress and osmotic stress, and wherein the regulatory element comprises a nucleotide sequence as set forth in any of SEQ ID NO. 4389-4654.

76. The method of any of claim 68 to 70, wherein the combination of stress 20 conditions is a cold stress and an osmotic stress, and wherein the regulatory element comprises a nucleotide sequence as set forth in any of SEQ ID NOS:4389-4414, 4416-4552, 4554-4602, 4604-4612, and 4613-4654.

77. The method of any of claims 68 to 70, wherein the combination of stress 25 condition is a cold stress and a saline stress, and wherein the regulatory element comprises a nucleotide sequence as set forth in any of SEQ ID NOS:4655-5909.

78. The method of any of claims 68 to 70, wherein the combination of stress conditions is an osmotic stress and a saline stress, and wherein the regulatory element 30 comprises a nucleotide sequence as set forth in any of SEQ ID NOS:5264-5379.



79. The method of any of claims 68 to 70, wherein the combination of stress conditions is a cold stress, an osmotic stress, and a saline stress, and wherein the regulatory element comprises a nucleotide sequence as set forth in any of SEQ ID NOS:3956-4388.

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80. The method of any of claims 68 to 70, wherein the combination of stress conditions is a cold stress, an osmotic stress, and a saline stress, and wherein the regulatory element comprises a nucleotide sequence as set forth in any of SEQ ID NOS:3956, 3958-4078, 4080-4097, 4099-4136, 4138-4175, 4177-4279, 4281-4299, 10 4301-4324, and 4326-4388.

81. The method of any of claims 68 to 80, wherein the detectable marker is visibly detectable.

15 82. The method of any of claims 68 to 80, wherein said detectable marker comprises a luminescent detectable marker.

83. The method of any of claims 68 to 80, wherein said detectable marker comprises a fluorescent detectable marker.

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84. The method of claim 83, wherein said fluorescent detectable marker comprises a green fluorescent protein, a yellow fluorescent protein, a cyan fluorescent protein, a red fluorescent protein, or an enhanced or modified form thereof.

25 85. A method of selecting a plant having an altered resistance to an abiotic stress condition or a combination of abiotic stress conditions, the method comprising:

a) contacting nucleic acid molecules representative of expressed polynucleotides in a plant cell of a plant to be examined for having an altered resistance to an abiotic stress with a nucleic acid probes that selectively 30 hybridizes under stringent conditions to a plant stress-regulated gene comprising a nucleotide sequence as set forth in any of SEQ ID NO:1-5379;

- b) detecting a level of selective hybridization of the nucleic acid probes to a nucleic acid molecule representative of an expressed polynucleotide in the plant cell, wherein the level of selective hybridization corresponds to the level of the expressed polynucleotide in the plant cell, which is indicative of resistance of the plant to an abiotic stress; and
- 5 c) selecting a plant having a level of expression of a polynucleotide indicative of altered resistance to an abiotic stress condition.

86. The method of claim 85, wherein the abiotic stress condition is cold stress, and wherein the nucleic acid probe comprises at least about 15 nucleotides of a nucleotide sequence as set forth in any of SEQ ID NOS:1-1261 and 2704-3955.

87. The method of claim 85, wherein the abiotic stress condition is cold stress, and wherein the nucleic acid probe comprises at least about 15 nucleotides of a nucleotide sequence as set forth in any of SEQ ID NOS:1-155, 157-228, 230-232, 234-557, 559-572, 574-605, 607-634, 636-786, 788-812, 814-1261, 2704-2855, 2857-2928, 2930-2932, 2934-3256, 3258-3271, 3273-3304, 3306-3323, 3325-3333, 3335-3485, 3487-3511, and 3313-3955.

88. The method of claim 85, wherein the abiotic stress condition is saline stress, and wherein the nucleic acid probe comprises at least about 15 nucleotides of a nucleotide sequence as set forth in any of SEQ ID NOS:2226-2427 and 4910-5107.

89. The method of claim 85, wherein the abiotic stress condition is osmotic stress, and wherein the nucleic acid probe comprises at least about 15 nucleotides of a nucleotide sequence as set forth in any of SEQ ID NOS:2428-2585 and 5108-5263.

90. The method of claim 85, wherein the combination of abiotic stress conditions is a combination of cold stress and osmotic stress, and wherein the nucleic acid probe comprises at least about 15 nucleotides of a nucleotide sequence as set forth in any of SEQ ID NOS:1669-1969 and 4389-4654.

91. The method of claim 85, wherein the combination of abiotic stress conditions is a combination of cold stress and osmotic stress, and wherein the nucleic acid probe comprises at least about 15 nucleotides of a nucleotide sequence as set forth in any of SEQ ID NOS:1699-1725, 1727-1865, 1867-1917, 1919-1927,  
5 1929-1969, 4389-4414, 4416-4552, 4554-4602, 4604-4612, and 4613-4654.
92. The method of claim 85, wherein the combination of abiotic stress conditions is a combination of cold stress and saline stress, and wherein the nucleic acid probe comprises at least about 15 nucleotides of a nucleotide sequence as set forth in  
10 any of SEQ ID NOS:1970-2226 and 4655-4909.
93. The method of claim 85, wherein the combination of abiotic stress conditions is a combination of osmotic stress and saline stress, and wherein the nucleic acid probe comprises at least about 15 nucleotides of a nucleotide sequence as set  
15 forth in any of SEQ ID NOS:2586-2703 and 5264-5379.
94. The method of claim 85, wherein the combination of abiotic stress conditions is a combination of cold stress, osmotic stress and saline stress, and wherein the nucleic acid probe comprises at least about 15 nucleotides of a nucleotide  
20 sequence as set forth in any of SEQ ID NOS:1262-1698 and 3956-4388.
95. The method of claim 85, wherein the combination of abiotic stress conditions is a combination of cold stress, osmotic stress and saline stress, and wherein the nucleic acid probe comprises at least about 15 nucleotides of a nucleotide  
25 sequence as set forth in any of SEQ ID NOS:1262, 1264-1386, 1387-1390, 1392-1404, 1406-1444, 1446-1483, 1485-1588, 1590-1608, 1610-1633, 1634-1698, 3956, 3958-4078, 4080-4097, 4099-4136, 4138-4175, 4177-4279, 4281-4299, 4301-4324, and 4326-4388.

96. A method of modulating the responsiveness of a plant cell to a stress condition, the method comprising introducing a polynucleotide portion of a plant stress-regulated gene into the plant cell, wherein said gene comprises a nucleotide sequence of a polynucleotide as set forth in any of SEQ ID NOS:1-155, 157-228,  
230-232, 234-557, 559-572, 574-605, 607-634, 636-786, 788-812, 814-1262,  
1264-1386, 1387-1390, 1392-1404, 1406-1444, 1446-1483, 1485-1588, 1590-1608,  
1610-1633, 1634-1725, 1727-1865, 1867-1917, 1919-1927, 1929-2855, 2857-2928,  
2930-2932, 2934-3256, 3258-3271, 3273-3304, 3306-3323, 3325-3333, 3335-3485,  
3487-3511, 3313-3956, 3958-4078, 4080-4097, 4099-4136, 4138-4175, 4177-4279,  
4281-4299, 4301-4324, 4326-4414, 4416-4552, 4554-4602, and 4604-5379, thereby  
modulating the responsiveness of the plant cell to a stress condition.

97. The method of claim 96, wherein the responsiveness of the plant cell is increased upon exposure to the stress condition.

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98. The method of claim 97, wherein increased responsiveness of the plant cell increases the stress tolerance of the plant cell to the stress condition.

99. The method of claim 96, wherein the responsiveness of the plant cell is decreased upon exposure to the stress condition.

100. The method of claim 99, wherein decreased responsiveness of the plant cell increases the stress tolerance of the plant cell to the stress condition.

101. The method of claim 96, wherein the polynucleotide portion of the plant stress-regulated gene integrates into the genome of the plant cell, thereby modulating the responsiveness of the plant cell to the stress condition.

102. The method of claim 96, wherein the polynucleotide portion of the plant stress-regulated gene encodes a stress-regulated polypeptide or functional peptide portion thereof.

103. The method of claim 102, wherein the stress-regulated polypeptide or functional peptide portion thereof increases the responsiveness of the plant cell to the stress condition.

5        104. The method of claim 102, wherein the polynucleotide portion of the plant stress-regulated gene is operatively linked to a heterologous promoter.

10       105. The method of claim 102, wherein the polynucleotide portion of the plant stress-regulated gene contains a mutation, whereby upon integrating into the plant cell genome, the polynucleotide disrupts an endogenous plant stress-regulated gene, thereby modulating the responsiveness of said plant cell to the stress condition.

15       106. The method of claim 105, wherein the endogenous plant stress-regulated gene encodes a maladaptive stress-regulated polypeptide, and wherein said plant cell exhibits increased tolerance to the stress condition.

107. The method of claim 96, wherein the polynucleotide portion of the plant stress-regulated gene comprises a stress-regulated gene regulatory element.

20       108. The method of claim 107, wherein, the regulatory element is operatively linked to a heterologous nucleotide sequence, which, upon expression from the regulatory element in response to a stress condition, modulates the responsiveness of the plant cell to the stress condition.

25       109. The method of claim 108, wherein the heterologous nucleotide sequence encodes a stress-inducible transcription factor.

110. The method of claim 109, wherein the transcription factor is DREB1A.

111. The method of claim 108, wherein the heterologous nucleotide sequence encodes a polynucleotide specific for a plant stress-regulated gene, said polynucleotide selected from the group consisting of an antisense molecule, a ribozyme, and a triplexing agent, which, upon expression in the plant cell, reduces or  
5 inhibits expression of a stress-regulated polypeptide encoded by the gene, thereby modulating the responsiveness of the plant cell to a stress condition.

112. The method of claim 108, wherein the heterologous nucleotide sequence encodes a recombinant polypeptide comprising a zinc finger domain and a  
10 transcription effector domain.

113. The method of claim 112, wherein the transcription effector domain is a transcription activator domain.

15 114. The method of claim 96, wherein the stress condition is cold stress, osmotic stress, saline stress, or a combination thereof.

115. A method of expressing a heterologous nucleotide sequence in a plant cell, the method comprising introducing into the plant cell a plant stress-regulated  
20 regulatory element operatively linked to the heterologous nucleotide sequence, wherein said regulatory element comprises a nucleotide sequence as set forth in any of SEQ ID NOS:2704-2855, 2857-2928, 2930-2932, 2934-3256, 3258-3271, 3273-3304, 3306-3323, 3325-3333, 3335-3485, 3487-3511, 3313-3956, 3958-4078, 4080-4097, 4099-4136, 4138-4175, 4177-4279, 4281-4299, 4301-4324, 4326-4414,  
25 4416-4552, 4554-4602, and 4604-5379, whereby, upon exposure of the plant cell to stress condition, the heterologous nucleotide sequence is expressed in the plant cell.

116. The method of claim 117, wherein the heterologous nucleotide sequence encodes a selectable marker.  
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117. The method of claim 117, wherein the heterologous nucleotide sequence encodes a polypeptide that improves the nutritional value of the plant cell.

118. The method of claim 117, wherein the heterologous nucleotide sequence encodes a polypeptide that improves the ornamental value of the plant cell.

- 5           119. A method of modulating the activity of a biological pathway in a plant cell involving a plant stress-regulated polypeptide, the method comprising introducing a polynucleotide portion of a plant stress-regulated gene into the plant cell, wherein the plant stress-regulated gene comprises a nucleotide sequence as set forth in any of SEQ ID NOS:1-155, 157-228, 230-232, 234-557, 559-572, 574-605, 607-634,
- 10   636-786, 788-812, 814-1262, 1264-1386, 1387-1390, 1392-1404, 1406-1444, 1446-1483, 1485-1588, 1590-1608, 1610-1633, 1634-1725, 1727-1865, 1867-1917, 1919-1927, 1929-2855, 2857-2928, 2930-2932, 2934-3256, 3258-3271, 3273-3304, 3306-3323, 3325-3333, 3335-3485, 3487-3511, 3313-3956, 3958-4078, 4080-4097, 4099-4136, 4138-4175, 4177-4279, 4281-4299, 4301-4324, 4326-4414, 4416-4552,
- 15   4554-4602, and 4604-5379, thereby modulating the activity of the biological pathway.

120. A plant cell obtained by any of claims 96 to 121.

121. A plant comprising the plant cell of claim 122.

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122. A method of identifying a polynucleotide that modulates a stress response in a plant cell, the methods comprising:

- a) contacting an array of probes representative of a plant cell genome and nucleic acid molecules expressed in plant cell exposed to the stress;
- 25           b) detecting a nucleic acid molecule that is expressed at a level different from a level of expression in the absence of the stress;
- c) introducing the nucleic acid molecule of step b) into a plant cell; and
- d) detecting a modulated response of the plant cell of step c) to a stress, thereby identifying a polynucleotide that modulates a stress response in
- 30   a plant cell.

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123. The method of claim 124, wherein the stress is an abiotic stress.

124. The method of claim 125, wherein the abiotic stress is selected from the group consisting of an abnormal level of cold, osmotic pressure, and salinity.

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125. The method of claim 124, wherein expression of the nucleic acid molecule increases the tolerance of the plant cell to the stress.

126. The method of claim 124, wherein, in step b), the nucleic acid molecule is expressed at a level that is less than the level of expression in the absence of the stress.

127. A transgenic plant, which contains a transgene comprising a polynucleotide portion of plant stress-regulated gene, wherein the gene comprises a nucleotide sequence as set forth in any of SEQ ID NOS:1-155, 157-228, 230-232, 234-557, 559-572, 574-605, 607-634, 636-786, 788-812, 814-1262, 1264-1386, 1387-1390, 1392-1404, 1406-1444, 1446-1483, 1485-1588, 1590-1608, 1610-1633, 1634-1725, 1727-1865, 1867-1917, 1919-1927, 1929-2855, 2857-2928, 2930-2932, 2934-3256, 3258-3271, 3273-3304, 3306-3323, 3325-3333, 3335-3485, 3487-3511, 3313-3956, 3958-4078, 4080-4097, 4099-4136, 4138-4175, 4177-4279, 4281-4299, 4301-4324, 4326-4414, 4416-4552, 4554-4602, and 4604-5379.

128. The transgenic plant of claim 129, wherein the transgenic plant exhibits altered responsiveness to a stress condition as compared to a corresponding wild-type plant.

129. The transgenic plant of claim 130, wherein the transgene disrupts an endogenous stress-regulated gene in the plant, thereby reducing or inhibiting expression of the gene in response to a stress condition.

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130. The transgenic plant of claim 130, wherein the plant exhibits increased tolerance to a stress condition.



131. The transgenic plant of claim 130, wherein the plant exhibits decreased tolerance to a stress condition.

5        132. The transgenic plant of any of claims 129 to 133, wherein the transgene comprises a coding sequence of a plant stress-regulated gene.

133. The transgenic plant of claim 134, wherein the coding sequence is operatively linked to a heterologous regulatory element.

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134. The transgenic plant of claim 135, wherein the regulatory element is a constitutively active regulatory element.

135. The transgenic plant of claim 135, wherein the regulatory element is an  
15 regulated regulatory element.

136. The transgenic plant of claim 135, wherein the regulatory element is a tissue specific or phase specific regulatory element.

20        137. The transgenic plant of any of claims 129 to 131, wherein the transgene comprises a plant stress-regulated regulatory element operatively linked to a heterologous nucleotide sequence.

138. The transgenic plant of claim 139, wherein the transgenic plant expresses a  
25 polypeptide encoded by the heterologous nucleotide sequence.

139. The transgenic plant of claim 140, wherein the polypeptide improves the nutritional value or ornamental value of the plant.

30        140. The transgenic plant of any of claims 129 to 141, wherein the plant comprises multiple transgenes.

141. The transgenic plant of claim 142, wherein the multiple transgenes comprise multiple copies of the same transgene or comprise two or more different transgenes.

- 5           142. A plant stress-regulated gene regulatory element, wherein the gene comprises a nucleotide sequence as set forth in any of SEQ ID NOS:1-155, 157-228, 230-232, 234-557, 559-572, 574-605, 607-634, 636-786, 788-812, 814-1262, 1264-1386, 1387-1390, 1392-1404, 1406-1444, 1446-1483, 1485-1588, 1590-1608, 1610-1633, 1634-1725, 1727-1865, 1867-1917, 1919-1927, 1929-2855, 2857-2928, 10   2930-2932, 2934-3256, 3258-3271, 3273-3304, 3306-3323, 3325-3333, 3335-3485, 3487-3511, 3513-3956, 3958-4078, 4080-4097, 4099-4136, 4138-4175, 4177-4279, 4281-4299, 4301-4324, 4326-4414, 4416-4552, 4554-4602, and 4604-5379.

143. The plant stress-regulated gene regulatory element of claim 144,  
15   comprising a nucleotide sequence as set forth in any of SEQ ID NOS: 2704-2855, 2857-2928, 2930-2932, 2934-3256, 3258-3304, 3306-3323, 3325-3333, 3335-3485, 3487-3511, 3513-3956, 3958-4078, 4080-4097, 4099-4136, 4138-4175, 4177-4279,, 4281-4299, 4301-4324, 4326-4414, 4416-4552, 4554-4602, 4604-4612, and 4614-5379, or a nucleotide sequence substantially similar thereto.

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144. A method of identifying an agent that modulates the activity of the plant stress-regulated regulatory element of claim 144 or claim 145, the method comprising:

- a) contacting the regulatory element with an agent suspected of having the ability to modulate the activity of the regulatory element; and  
25   b) detecting a change in the activity of the regulatory element, thereby identifying an agent that modulates the activity of the plant stress-regulated regulatory element.

145. The method of claim 146, wherein the regulatory element can be  
30   operatively linked to a heterologous nucleotide sequence.

146. The method of claim 147, wherein the heterologous nucleotide sequence encodes a reporter molecule.

147. The method of any of claims 146 to 148, which is *in vitro* in a plant cell-free system, in a plant cell in culture, or in a plant *in situ*.

148. The method of claim 149, wherein the plant is a transgenic plant, into which the plant stress-regulated regulatory element has been introduced.

149. The method of any of claims 146 to 150, wherein the agent is a stress mimic.

150. A method of modulating a stress-regulated response in a plant cell, the method comprising expressing in the plant cell a recombinant polypeptide that interacts specifically with a plant stress-regulated regulatory element of claim 144 or claim 145, thereby modulating a stress-regulated response in the plant.

151. The method of claim 152, wherein the recombinant polypeptide comprises a zinc finger domain, which specifically interacts with the stress-regulated regulatory element, and a transcription effector domain, which effects expression of the regulatory element.

152. The method of claim 153, wherein the effector domain is a transcription activation domain.

153. The method of claim 153, wherein the effector domain is a transcription repressor domain.

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154. A method for identifying a polynucleotide involved in a stress response of a plant, the method comprising:

5 a) contacting nucleic acid molecules representative of expressed polynucleotides in plant cells of a plant exposed to a stress condition or combination of stress conditions with an array of probes representative of the plant cell genome; and

10 b) detecting a nucleic acid molecule that exhibits at least a two-fold change in the level of expression as compared to the level of the nucleic acid molecule in a corresponding plant cell of a plant that was not exposed to the stress condition, thereby identifying a polynucleotide involved in a stress response of the plant.

155. The method of claim 156, comprising identifying a plurality of polynucleotides involved in the stress response in the plant.

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156. The method of claim 156 or 157, further comprising isolating the polynucleotide or plurality of polynucleotides.

157. A computer readable medium having stored thereon computer executable instructions for performing a method comprising:

20 a) receiving data on expression in a cell of a plant of a nucleic acid molecule having at least 70% sequence identity to a nucleotide sequence comprising any of SEQ ID NO. 1-5379; and

25 b) comparing the data on expression of the nucleic acid molecule with data on expression of the nucleic acid in a cell of a plant that has not been exposed to an abiotic stress, of a plant that has been exposed to an abiotic stress condition or combination of abiotic stress conditions, or of a combination of such plants.

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158. The computer readable medium of claim 159, wherein the nucleic acid molecule comprises one of a plurality of nucleic acid molecules, and wherein the computer executable instructions are capable performing receiving and comparing of any or all of the plurality of nucleic acid molecules.

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159. A computer-readable medium having stored thereon a data structure comprising:

sequence data for at least one nucleic acid molecule having at least 70% nucleic acid sequence identity to a polynucleotide having a nucleotide sequence as set forth in any of SEQ ID NO. 1-5379 or a nucleotide sequence complementary thereto; and

10

a module receiving the nucleic acid molecule sequence data, which compares the nucleic acid molecule sequence data to a least one other nucleic acid sequence.

15

## INTERNATIONAL SEARCH REPORT

 Ir Application No  
 PCT/US 01/26685

 A. CLASSIFICATION OF SUBJECT MATTER  
 IPC 7 C12N15/82 C12Q1/68 A01H5/00 G06F17/00

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C12N C12Q A01H G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, BIOSIS, MEDLINE, CAB Data, SEQUENCE SEARCH

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	REYMOND P ET AL: "Differential gene expression in response to mechanical wounding and insect feeding in Arabidopsis." PLANT CELL, vol. 12, no. 5, May 2000 (2000-05), pages 707-719, XP002216347 ISSN: 1040-4651 the whole document	1-4, 16-18, 42, 57-70, 81-84, 96-108, 111, 114, 124-128, 156-158
A	WO 00 08187 A (VERBRUGGEN NATHALIE ;VLAAMS INTERUNIV INST BIOTECH (BE); LEE JEONG) 17 February 2000 (2000-02-17) the whole document	

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

## \* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document relating to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"Z" document member of the same patent family

Date of the actual completion of the international search

10 October 2002

Date of mailing of the international search report

18 12 2002

Name and mailing address of the ISA

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## INTERNATIONAL SEARCH REPORT

 In ☐ International Application No  
 PCT/US 01/26685

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>NUCCIO M L ET AL: "Metabolic engineering of plants for osmotic stress resistance." CURRENT OPINION IN PLANT BIOLOGY. UNITED STATES APR 1999, vol. 2, no. 2, April 1999 (1999-04), pages 128-134, XP002216348            ISSN: 1369-5266            the whole document</p> <p>---</p>	
A	<p>RUAN Y ET AL: "TOWARDS ARABIDOPSIS GENOME ANALYSIS: MONITORING EXPRESSION PROFILES OF 1400 GENES USING CDNA MICROARRAYS" PLANT JOURNAL, BLACKWELL SCIENTIFIC PUBLICATIONS, OXFORD, GB, vol. 15, no. 6, September 1998 (1998-09), pages 821-833, XP000960486            ISSN: 0950-7412            the whole document</p> <p>---</p>	
A	<p>SCHEMA M ET AL: "QUANTITATIVE MONITORING OF GENE EXPRESSION PATTERNS WITH A COMPLEMENTARY DNAMICROARRAY" SCIENCE, AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE, US, vol. 270, no. 5235, 20 October 1995 (1995-10-20), pages 467-470, XP000644675            ISSN: 0036-8075            the whole document</p> <p>---</p>	
P,X	<p>SEKI M ET AL: "Monitoring the expression pattern of 1300 Arabidopsis genes under drought and cold stresses by using a full-length cDNA microarray." PLANT CELL, vol. 13, no. 1, January 2001 (2001-01), pages 61-72, XP002216349            ISSN: 1040-4651            the whole document</p> <p>---</p>	1-4, 16-18, 42, 57-70, 81-84, 124-128, 156-158
P,X	<p>SCHENK P M ET AL: "Coordinated plant defense responses in Arabidopsis revealed by microarray analysis." PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES, vol. 97, no. 21, 10 October 2000 (2000-10-10), pages 11655-11660, XP002216350            October 10, 2000            ISSN: 0027-8424            the whole document</p> <p>---</p>	1, 2, 4, 16-18, 42, 57-60, 63-68, 81-84, 124, 127, 128, 156-158
	<p>---</p> <p>-/--</p>	

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 01/26685

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,X	<p>EP 1 033 405 A (CERES INC) 6 September 2000 (2000-09-06)</p> <p>see SEQ ID NO: 38097 page 1 -page 26; claims 1-34 page 89 -page 90 page 318 page 322</p> <p>-----</p>	<p>42,43, 57-70, 81-87, 96-108, 111,114, 121-123, 129-144, 146-151, 159-161</p>



# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US 01/26685

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
  
2. ☒ Claims Nos.: 152-155  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:  
see FURTHER INFORMATION sheet PCT/ISA/210
  
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
  
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
  
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
  
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:  
claims 1-6, 16-19, 22, 34, 40, 42, 43, 57-70, 81-87, 96-114, 121-144,  
146-151, 156-161 all partially

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.  
☐ No protest accompanied the payment of additional search fees.

## FURTHER INFORMATION CONTINUED FROM PCT/ISA 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

Invention 1: claims: 1-6,16-19,22,34,40,42,43,  
57-70, 81-87,96-114,121-144,146-151,  
156-161 all partially

A method of identifying a stress condition to which a plant cell has been exposed comprising a polynucleotide with SEQ ID NO: 1. A method for determining whether a test plant has been exposed to an abiotic stress, a method of producing a transgenic plant, a transgenic plant, a plant, a plant cell, a seed, a cDNA or genomic library, a method for monitoring a population of plants, a method of selecting a plant having an altered resistance to an abiotic stress condition, a method of modulating the responsiveness of a plant cell to a stress condition, a method of modulating the activity of a biological pathway in a plant cell, a method of identifying a polynucleotide that modulates a stress response in a plant cell, a plant stress-regulated gene regulatory element, a method of identifying an agent that modulates the activity of a plant stress-regulated element, a method for identifying a polynucleotide involved in a stress response of a plant, a computer readable medium having stored thereon computer executable instructions or a data structure comprising said polynucleotide.

Invention 2-5379: claims 1-151,  
156-161 insofar as applicable; all partially

same as invention 2 but comprising a polynucleotide sequence in the order as given in the claims (invention 2 is limited to SEQ ID NO: 2 and invention 5379 is limited to SEQ ID NO: 5379).

## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.2

Claims Nos.: 152-155

Present claims 152-155 relate a product/compound defined by reference to a desirable characteristic or property, namely a polypeptide that interacts with a plant stress-regulated regulatory element. The claims cover all products/compounds having this characteristic or property, whereas the application provides support within the meaning of Article 6 PCT and/or disclosure within the meaning of Article 5 PCT for only a very limited number of such products/compounds. In the present case, the claims so lack support, and the application so lacks disclosure, that a meaningful search over the whole of the claimed scope is impossible. Independent of the above reasoning, the claims also lack clarity (Article 6 PCT). An attempt is made to define the product/compound by reference to a result to be achieved. Again, this lack of clarity in the present case is such as to render a meaningful search over the whole of the claimed scope impossible. Consequently, no search has been carried out.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 01/26685

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